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CONTENTS

	PAGE
Editorials	765
Letters to the Editor	770
The Scrap Heap	772
Overseas Railway Affairs	773
Impressions of Overseas Transport	775
Centenary of the Belgian Railways	777
New Excursion Trains, G.W.R.	790
New First Class Club Car, L.M.S.R.	792
Railway News Section	795
Personal	795
Contracts and Tenders	802
Official Notices	803
Railway Share Market	804

FINANCIAL AND OPERATING RESULTS OF THE BRITISH GROUP RAILWAYS IN 1934

Our annual analysis of the accounts and statistics of the British group railways, as shown in the published reports for the past year, is presented as a Supplement to each copy of this week's issue. Extra copies of the Supplement can be supplied, price 1s. each.

The late Mr. P. H. Price of the Clearing House

A WIDE circle of British railway officers will have learned with regret of the sudden death on Easter Sunday, while at sea on a cruise, of Percy Howard Price, Secretary of the Railway Clearing House. Mr. Price, who was 63 years of age, spent no fewer than 46 years in the service of the Clearing House, and his experience of the changes which took place during this long period enabled him to give valuable counsels to a large circle of railway officers. Overseas readers may not all fully appreciate the important part which the Clearing House has occupied in the development of the British railway system. It was established on January 2, 1842, as soon as the linking up of the main L.N.W.R. line from London to Lancashire with the Midland group of companies necessitated the through booking of traffic between the metropolis and the important industrial and mining districts of the North Midlands, Yorkshire, and the North East Coast. Before grouping in 1923, when 120 railway companies were merged into the present four main line systems, it is not an overstatement to say that the operations of the Railway Clearing House made it possible for traders to receive from the British railways unified service which otherwise would have been almost impossibly complicated. Mr. Price entered the service of the Clearing House in 1889 and, as recorded in the brief obituary paragraph which accompanies his portrait on page 795, eventually became Secretary in 1919, which position he held until his death. Apart from railway officers, Mr. Price's passing will be regretted by a large number of traders, to whom he was uniformly courteous and helpful, and also by his personal staff, who found in him a chief it was a pleasure to serve.

* * * *

The late Mr. J. B. Harper

A railwayman of the old school, well known to officers and staff of the former North Eastern Railway, was Mr. J. B. Harper, the news of whose death on April 17 has been received with wide-spread regret. Mr. Harper spent all his railway life on one system, beginning as a clerk at Malton in the Goods Department and passing through every grade on the traffic-operating side until in 1911 he was appointed Assistant General Superintendent. He retired at the end of 1922 on the eve of grouping, but continued to take a keen interest in all that concerned his old company. His long course of training in so many grades of railway work and his industry and application made him a thoroughly practical and reliable railway officer, who was able to secure the willing co-operation of his staff. During the war Mr. Harper was Chairman of the Central Control when all railway movements on the North Eastern were related to the central control at York, on which the War Office was represented. He was also one of the company's representatives on the N.E.R. Conciliation Committee from its commencement until it ceased to function on the passing of the Railways Act, 1921. The large number present at his funeral on April 20 testified to the esteem and affection which his former colleagues felt for him.

* * * *

The Week's Traffics

As the latest traffic returns are for Good Friday week and compare with those for an ordinary week in 1934 there is naturally a big increase in the passenger train receipts of the four group companies. Passenger train earnings for the past week amounted to £641,000 on the L.M.S.R., an increase of £13,000 in comparison with Good Friday week, 1934; on the L.N.E.R. to £383,000, an increase of £6,000; on the Great Western to £262,000, an increase of £5,000; and on the Southern to £379,000, an increase of £3,000. Total traffic receipts for the past week in comparison with those for Good Friday week, 1934, show an increase of £16,000 on the L.M.S.R., but decreases of £44,000, £1,000, and £14,000 respectively on the L.N.E.R., Great Western, and Southern.

	16th Week				Year to date.	
	Pass., &c.	Goods, &c.	Coal, &c.	Total.	Inc. or dec.	
	£	£	£	£	£	%
L.M.S.R.	+ 236,000	— 70,000	— 25,000	+ 141,000	+ 98,000	+ 0·56
L.N.E.R.	+ 121,000	— 53,000	— 46,000	+ 22,000	— 156,000	— 1·19
G.W.R.	+ 84,000	— 29,000	— 3,000	+ 52,000	— 9,000	— 0·13
S.R.	+ 128,000	— 13,500	— 4,500	+ 110,000	— 40,000	— 0·73

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Argentine Government Railway Commission

Although we have not yet received details of the report of the Argentine Government Railway Investigation Commission from our correspondent in Argentina, a useful summary of the findings is published in *The Times* of April 23. The committee was appointed last year to make recommendations for the economic reorganisation of the railways and transport generally, and its report was issued last week. After recalling the circumstances which led up to the present dire straits of the railway industry, chief

XUM

among which are depreciation in exchange value resulting from world trade depression, and road competition, the commission urges reduction of operating expenditure in every direction, the immediate legalisation of the measure now before Congress to co-ordinate rail and road transport —coupled with the usual control and obligation of road hauliers—the elimination of unjustifiable railway "special rates," a modification of remuneration for Government transport and a revision of the regulations governing railway remittances to foreign countries. In connection with the latter recommendation a concrete proposal is made in the report that railway transfers should be permitted at a rate between that ruling for commerce and that fixed for remittances earmarked for the nation's external debt service. Incidental to road co-ordination are the recommendations that railway door-to-door service should be provided, rail and road rates charged and wages paid should be supervised and regularised. Government transport must be paid for on the basis of the cost of the services and scales of pay and labour regulations drafted so as to utilise staff to the best advantage. The use of railcars, road lorries and buses, where these are more economical than train services, is also recommended. As the commission was appointed by the President it is hoped that its report will carry due weight with the Argentine Government.

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Overseas Railway Traffics

Argentine railway traffics in currency generally continue to show encouraging increases except on the Buenos Ayres Western, although in this case as also on the Argentine North Eastern and Entre Rios the receipts for the past week were to some extent affected by Holy Week this year comparing with an ordinary week in 1934. Antofagasta traffics for the past week were similarly weakened. The Buenos Ayres Great Southern has an increase for the 42 weeks of the current year of 6,051,000 pesos, the Central Argentine one of 5,919,650 pesos, the Buenos Ayres & Pacific one of 3,095,000 pesos, and the Entre Rios one of 1,370,900 pesos. During the past fortnight the Canadian Pacific has reduced its decrease from £209,800 to £165,000. Bombay, Baroda & Central India traffics since the beginning of the new financial year on April 1 are being published once every ten days, and the return shown herewith is for the first ten days of the current financial year.

	No. of Week	Weekly Traffics	Inc. or Decrease	Aggregate Traffic	Inc. or Decrease
		£	£	£	£
Buenos Ayres & Pacific ..	42nd	102,957	+ 5 823	3,244,077	— 340,156
Buenos Ayres Great Southern ..	42nd	147,664	+ 4,331	6,087,888	— 631,609
Buenos Ayres Western	42nd	46,127	— 14,165	1,875,926	— 355,542
Central Argentine	42nd	138,808	+ 15,603	5,016 980	— 522,810
Canadian Pacific	15th	457,800	+ 25,200	6,200,000	— 165,000
Bombay, Baroda & Central India	1st	225,600	— 8,400	—	—

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Simpler Train Cruises

In the last few years the verb "to cruise" has earned associations of luxury which do not properly belong to it. Sometimes, indeed, one gathers from returning cruisers that travel is but an incidental attraction of such a holiday. With the Northern Belle the L.N.E.R. placed the interest of the journey itself in a true relation to the undeniable pleasures of good living, and the same company has now organised a train cruise in which the participants will enjoy themselves only in proportion to their capacity for making the most of an unvarnished and self-reliant existence. The passengers will be boy scouts, who are to leave King's Cross on April 28 for Edinburgh and the Western Highlands, returning by way of Carlisle and Newcastle. For the initial part of its run the train will be hauled by the record breaking Pacific *Papyrus*, in charge of one of the drivers who took part in the London-Newcastle record runs of March 5 last. The formation will consist of restaurant, kitchen and sleeping cars. How well the idea has been received is shown by the number of applications for places, and its success in practice will be watched with interest as representing a possible extension of the facilities for reasonably priced and healthy holiday recreation already offered by camping coaches and ramblers' excursions.

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The late Sir William Marwood

The necessarily earlier preparation of this section of the paper last week, due to the Easter holidays, robbed us then of the opportunity to offer a tribute to the late Sir William Marwood. He was not only a typical Civil servant, in that he was always approachable, courteous and helpful, but his excellent memory made him unusually informative. A characteristic that appealed to us, in our detached position of being neither railwaymen nor traders, was that Sir William so truly represented the traditional attitude of the Board of Trade as an unbiassed intermediary between the railways and the public. The wealth of information at his command was particularly noticeable when giving his two days' evidence, in June, 1909, as the opening witness before the Departmental Committee on Railway Amalgamations and Agreements, and again, in November, 1913, as the first witness before the Loreburn Royal Commission on the Relations between Railway Companies and the State. The same ability was displayed in June, 1914, when, as representing the Board of Trade, he examined witnesses before the departmental committee which inquired into the working of the Railway Employment (Prevention of Accidents) Act of 1900—a subject in which he took a deep interest. Altogether, he was a man of charming personality, who, once met, would never be forgotten.

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The First Railway Accident

The tragedy that accompanied the opening of the Liverpool & Manchester Railway, of which we have recently been reminded by the unveiling of the facsimile of the *Rocket* at the Science Museum, has often been spoken of as the first railway accident. The death of Mr. Huskisson was not, however, the result of a railway accident as now generally understood; it was not a train accident but a "movement" accident. Further, as the victim had presumably not paid his fare, he could not today be classed as a passenger but would rank as an "other person." Mr. Hore-Belisha, when unveiling the copy, suggested that Mr. Huskisson's untimely death stimulated Parliament to provide "adequate precautions for the public safety," but we would point out that not for another ten years was any such action taken by the State. The select committee, appointed in April, 1839, to inquire into the subject of railway communication, recommended that no new railway should be opened until it had been inspected by some governmental board of control. The consequent Act of 1840 required notice to be given of the opening, for the public conveyance of passengers or goods, of any railway or portion of a railway, and it authorised any proper person or persons to inspect any railway, but it was not until the further Act of 1842 that the companies laid themselves open to penalties if they opened a line that had not been offered for inspection or, if offered, had not been approved. Accidents had not to be reported until "returns of traffic and of accidents attended with personal injury" were called for by the Act of 1840. A collision at Rainhill on November 25, 1832, in which one passenger was killed, was probably the first fatal train accident.

B.A. Provincial Railway Company

The Buenos Aires Provincial Railway Company, a French-owned undertaking of 1,267 km. on the metre gauge, was formed in 1905. It has a central station in Buenos Aires in the Avenida de Velez, and in addition to the Buenos Aires-Rosario main line there are westerly and south-westerly sections to General Villegas and V. de la Plata. At many points it competes with the older-established British companies, on the main line it has to meet river competition, and its short distance traffic is particularly susceptible to road transport. For the year ended June 30, 1934, there was an improvement in cereals, general merchandise and live stock tonnages, but a set-back in passengers and parcels. The gross receipts of fr. 58,775,504 showed a very moderate improvement. Figures for the year under review are calculated at fr. 4·687 to the peso, whereas in previous years subsequent to 1928-29 the basis of calculation had been fr. 10·85 to the peso. The working expenses of fr. 52,492,720 also showed a reduction, and the operating ratio was 88·51 per cent. against 89·50 per cent. Petite vitesse traffics brought in 86·38 per cent. of the total receipts. Net receipts amounted to fr. 6,282,785, and total net income to fr. 5,728,867. Bond interest and amortisation required fr. 4,851,031, leaving a balance of fr. 877,836, which is carried to general reserve.

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Swiss Railways London Agency

In connection with the pending retirement of M. Alexandre Duruz from the position of Manager of the Swiss Federal Railways' Agency and Travel Bureau in London, recorded on page 796, it is interesting to recall a paragraph relating to Switzerland in a recent issue of *Travel Topics*, extracts from which read as follow: "Perhaps no other country has brought more grist to the mill of the tourist agent. Its position as the holiday country of Europe is indisputable, but this is not alone because of its geographical situation, but also because it has fostered tourism to such an extent that it has become the staple industry of the country. . . . In this work the London office of the Swiss Federal Railways has played an important part. . . . In charge of this office is M. Alexandre Duruz, one of the most respected and genial of all travel men, and whose services to travel agents over a large number of years have gained him a warm place in their regard." We can cordially endorse this tribute to M. Duruz, and feel sure that his long and happy association with the London agency will be greatly missed. But our good wishes go with him into his retirement, and at the same time we offer our congratulations and a warm welcome to his successor, M. Ceresole.

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Through Working between the Russian and European Gauges

The fact that Russia has tended to hold herself aloof from the rest of Europe causes the railway traffic continually crossing the frontier to be overlooked or underestimated by distant observers. Yet its volume is sufficient for special and extensive arrangements to have been made by neighbouring countries to allow through working of wagons between the European standard and the Russian five-foot gauge. The movement is confined to four-wheeled vehicles, which have one set of wheels and axles removed at the frontier and another substituted for the gauge to which they are proceeding. Information in the German press at the end of 1932 stated that equipment for this purpose existed at Riga and Daugavpils in Latvia, at Niegoseloje on the Russian side of the Russian-Polish frontier, through which passes the Warsaw-Moscow main line, and at the Polish frontier station of Zdolbunowo on the Warsaw-Kiev route. The operation of hoisting and changing axles was stated to require twelve minutes when done by hand, but only five minutes with the electric lifting apparatus at Daugavpils. Figures at the beginning of 1934 showed that the Reichsbahn had nearly 13,000 convertible wagons, the Polish railways over 18,000, and the U.S.S.R. at least 31,000. Latvia and Lithuania possess similar stock.

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Excursion Trains Past and Present

In days gone by the excursionist was wont to be looked upon by railway companies primarily, and perhaps naturally, as a cheaper edition of the ordinary passenger, who neither expected nor received more attention to his comforts and convenience than the circumstances, principally gauged by the low fares he paid, demanded. Long journeys were made in relatively slow running trains consisting of non-corridor compartment coaches, and the sandwich bag and bottle, the latter containing liquid refreshment of varying potency, played an all-important part in the course of the journey. Nowadays all that is changed and the excursion passenger travels under conditions equalling in amenities and degree of comfort those enjoyed by the full fare paying railway patron. Corridor coaches of the latest type, with all the benefits of modern warming, lighting and ventilating systems, are supplemented by dining facilities for the serving of light meals at appropriate times. Non-stop schedules at good average speeds are worked to, and, in short, all the usual main line passenger train standards are observed. The new G.W.R. excursion trains illustrated and described on pages 790-91 of this issue admirably uphold, and in some degree may be said to improve, the lot of the railway excursion passenger, who, in return for the much reduced fare he pays, has his every wish interpreted at its highest value.

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Locomotive Tests at Vitry

Monsieur Pierre Place, in the paper on locomotive testing plants, with special reference to that at Vitry, which he read before a meeting of the Institution of Locomotive Engineers on Wednesday, April 17, pointed out that a very exact comparison between two locomotives is made possible only by the use of a testing station, as the causes of differences between the engines can then be separated, and very slightly divergent effects measured. Since its construction at a cost of about £120,000, sixteen locomotives have been tested at Vitry, and there they have run the equivalent of 30,000 km. (19,000 miles). These tests covered power output and fuel and water consumption, also an investigation into disturbing movements; they included tests with a diesel-electric locomotive, valve gear investigations and comparative consumption tests of accessories. The plant was designed to test engines at speeds up to 160 km. (99·9 m.) p.h. with individual axle loads as high as 29·53 tons. The maximum power each brake can absorb is 1,900 h.p. at a speed exceeding 43 km. (26·7 m.) p.h., and the maximum tractive effort of the dynamometer is 45 tonnes (44·29 tons). Tests repeated under identical conditions at intervals of several weeks on the same locomotives gave results which differed only very slightly, as for instance by 5 to 10 h.p. on 1,500 h.p. An illustrated description of the Vitry plant was published in our issue of September 28, 1934, and an abstract of the discussion which followed the reading of Monsieur Place's paper appears on page 797 of the present issue.

XUM

British Group Railways in 1934

THE year 1933 closed with indications of better times in store for British railways, and it is pleasant to be able to record that the results of the year 1934, which we present as a Supplement to this issue, show that those hopes have been realised; the gross receipts of the four railways concerned total nearly £172 millions, an increase of about £7,000,000 on the previous year's working. It is satisfactory to find that this increase in gross revenue has involved additional expenditure of only £4,400,000 compared with 1933, showing that there has been no relaxation of effort on the part of railway managements to produce ever increasing efficiency and economy in railway working, with the result that net receipts amount to £28,833,225, an improvement of 9·39 per cent. on the 1933 figure. Capital expenditure during the year was £3¾ millions, and an examination of the details tends to show that while the outlay is widespread, a substantial part has been spent with a view to improving net revenue by reducing maintenance expenditure which will result from improved facilities or modern equipment; on the G.W.R., for example, a further £332,000 has been laid out on 20-ton wagons and £180,000 on station improvements at Bristol; the new L.M.S. offices at Euston account for £105,000. Other items of note include £502,000 on the new L.N.E.R. fish dock at Grimsby and other dock improvements, while the Southern spent £550,000 on Southampton docks and £644,000 on electrification.

Turning to the matter of revenue, it is noted that the increase in receipts is due, with minor exceptions, to an all-round improvement in traffic. Passenger and parcels traffic was better by nearly £1¼ millions, or 1·45 per cent., while in point of numbers, including season ticket holders, over 35 million additional passengers were carried, an improvement of 3 per cent. on the previous year. As regards season tickets, it is interesting to compare the number of holders on the four amalgamated lines in 1934 with the year 1924; in the latter year the total was nearly 788,000, of which 122,000 were first class; by 1934 the number had fallen to 630,780 and the total of first class ticket holders dropped by over 50 per cent. to 60,000. The only line to record an increase in this class of passenger is the Southern, whose 164,465 season ticket holders in 1924 have grown to 193,129 in 1934. This may to some extent be accounted for by the general drift of London's suburban population towards the south side of the Thames, but there can be no doubt that electrification has played a substantial part in this satisfactory state of affairs. To increase these travellers numerically by 17½ per cent. during a period in which similar traffic on the other three group lines has declined by 30 per cent. is no mean achievement. It is, however, from goods train traffic that the bulk of the increased revenue has been derived, the receipts from minerals and merchandise (classes 1-6) having grown by 14¼ per cent., while coal, and merchandise excluding classes 1-6, are each up by 4½ per cent.; a decrease of 3¼ per cent. in takings from livestock traffic appears to be but a reflection of the melancholy state of a fundamental industry. The tables dealing with expenditure call for little comment, with an all-round increase in the user of the railways a growth in outgoings was to be expected; the fact that the additional expenditure is only 63 per cent. of the increase in receipts is a matter for congratulation to all concerned. There is perhaps some evidence that managements have taken advantage of the increased revenue to improve appearances; for example, maintenance of stations and buildings has cost £440,000 more than in the previous year.

The year 1934 certainly appeared to mark a turn in the tide, and interest now centres on the future, and as to whether 1935 will show equally satisfactory results. Traffic returns for the first sixteen weeks are not encouraging, being some £300,000 below the corresponding period of last year in spite of an increase of £190,000 in passenger receipts. This sinister pointer directs our attention to the basic controlling factor of railway prosperity—national production. Last year witnessed a substantial improvement in certain of the heavy industries, but this in our opinion was mostly due to the increased requirements of the home market. At the present time the demand for coal is less than it was twelve months ago, and this is reflected by the reduction in traffic under this head, while as regards industry generally, we cannot see that effective demand at home is likely to show any spectacular advance—so long as it calls for only a modest proportion of the total national productive capacity. It is our view that but little improvement in gross revenue can be anticipated until there is an increase in general purchasing power; failing this, the further prosperity of British railways is virtually dependent upon world trade, for which the outlook is far from hopeful at the present time. In a world where trade is now subjected at every turn to governmental regulation, restrictions and quotas, the old natural laws of supply and demand are no longer applicable and speculation as to the future must therefore be of little value. We can but hope that the day is not too far distant when dabbling in commerce will cease to be the fashionable hobby of the professional politician, and that the time is at hand when those in charge of the governments of the world will realise that the only thing to do with abundant wealth is to distribute it by increasing the purchasing power of the masses. Till that day dawns both capital and labour, railways included, must continue to lay out their earnings towards keeping bare life in those great numbers of unemployed who would otherwise starve in a world of plenty.

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The Railways of Belgium

PROBABLY no country owes more to its railway system than Belgium, and certainly no other country has made greater use of railways in the furtherance of its commercial development. To a large extent this resulted from the coincidence of Belgian independence and the industrial revolution. In the latter part of the eighteen-twenties public railway transport was beginning to be accepted in many of the older countries, and it is probable that piecemeal construction to meet local needs would have taken place in Belgium but for the political upheaval of the period. In 1829, for example, some manufacturers at Liége had presented a project to the Government of the Netherlands for connecting Antwerp and Liége by railway. The revolution of 1830, of course, prevented the proposal from being considered, as it resulted in the establishment of the new Kingdom of Belgium. Frontiers were uprooted, Flanders was divided from Zeeland, and North from South Brabant. Antwerp lost her free access to the sea, and feared that her trade relations with the Rhineland, dependent on an easy water communication via the Scheldt and the Rhine, would be broken up. It was not long, therefore, before the provisional Government holding the administrative reins at Brussels, appreciated the danger which threatened the young State, and no sooner was Prince Leopold of Saxe-Coburg crowned King on July 21, 1831, than he ordered (on August 24, 1831) two engineers of the Department of Public Works, Simons and De Ridder, to prepare plans for either a railway or a waterway that should connect Antwerp direct with Cologne. A line of route was planned, but shortly afterwards aban-

doned as it traversed a portion of Limburg, which was ceded to the Netherlands by treaty on November 15, 1831. On March 21, 1832, a Royal Decree authorised the Government to call for tenders for the perpetual concession of a railway from Antwerp to Liége, which it was intended to prolong subsequently to the Prussian frontier on the route to Cologne. The adjudication was not made, first, because the proposed terms were very severe, and, secondly, because an important group in Parliament wished the line to be run by the State.

At the opening of Parliament, on June 9, 1833, the King announced the introduction of a new Bill, which he recommended strongly to the attention of members " for the construction of a great means of communication from the sea coast and the Scheldt to the Meuse and the Rhine, answering to the wishes and requirements of the entire country." The actual text of the Bill was presented ten days later by Charles Rogier, Minister of the Interior. Heated controversy arose over the question of whether the working should be in the hands of the State or given to private concerns, but after seventeen sittings of the House of Representatives, in which 35 out of the 102 members took an active part, the Bill was passed on March 28, 1834, by 56 votes to 28 and one blank. On April 30 it was approved by the Senate by 32 votes to 8; the Royal Assent was given on May 1; and the law was officially promulgated three days later. This Act not only established the principle of state operation and construction of railways, but also planned a complete system designed to foster the industrial development of the country, and, as a result, the Belgian railways were probably the first in the world to be planned as a system. As will be seen from the map on page 777 the original system was designed to centre on Malines where the basic kilometre post was ceremonially unveiled in 1835—it may still be seen near the two swing bridges across the Louvain canal. Notwithstanding its being the central point, Malines was apparently never taken as the zero point for distance reckoning. An interesting survival of the Act of 1834 is to be found, however, in the fact that on the direct lines from Brussels (Nord) to Ostend and to Liége and Aachen the kilometre distances after Ghent and Louvain show 20 too much, as the route from the zero point at Brussels outwards was originally reckoned via Malines and was not changed when the direct line from Brussels (Nord) to Ghent was opened in 1856, and from Brussels (Nord) to Louvain in 1866. In addition, the junctions at Schellebelle (a little to the east of Ghent), and Louvain, where old and new lines connect, still have a *through* track to Malines and a *branch* track to Brussels.

Once the principle of State ownership had been adopted by the law of 1834, no time was lost in beginning construction of the lines, and on June 1 of that year, not quite a month after publication of the Law, work was begun. The first section to be undertaken was that from Brussels to Malines, which had been regarded merely as a subsidiary portion in the original proposals. Within eleven months it was completed, and on May 5, 1835, three trains were ready with Stephenson-designed locomotives for the formal inauguration of traffic. The original Brussels station was Allée Verte, alongside the Willebroeck Canal, but by 1844 the extensive traffic to the north, west, and east of the country was transferred to Brussels (Nord) and for time Allée Verte was used exclusively for goods traffic. Now it serves as a terminus for workmen's trains, and also as a depôt and garage for railcars, lorries, and buses of the Belgian National Railways. In the intervening century the railways of Belgium have spread to such an extent that the country now possesses the most extensive network in the world, proportionate to the size of its territory. With a total of 5,061 km. (3,138 miles) of main (apart from light) railway to 11,750 sq. miles of area, it owns about 27 route miles for each 100 sq. miles, as against 23 in Great Britain, 20 in Germany, 18 in Holland, and 15½ in France.

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Increased Freight Rates and Charges in America

IN August, 1934, the American railways, with only one or two exceptions, filed with the Interstate Commerce Commission a proposal for raising freight rates on account of the increased operating costs, due in part to the higher prices ruling for materials and stores, to the restoration of the temporary deductions from wages and salaries, wholly restored as from April 1, 1935, and to the increased costs expected from the Retirement Act, the legality of which is at present under appeal by the Supreme Court. The railways estimated that their earnings would fall short of their fixed charges requirements in 1934, and in fact they did so by $32,000,000. After a long drawn out hearing lasting from October to January, the Interstate Commerce Commission rendered its decision, dated March 26, 1935, and, whilst certain commissioners dissented from the majority ruling, notably Commissioner C. B. Aitchison, who had taken charge of the nation-wide hearings, the decision turned down the railways' application, but in its place allowed an important increase, termed emergency charges, which should assist the American railways considerably. The increases proposed by the railways themselves were the result of a detailed traffic survey and were calculated to yield in a full year $170,000,000; they were designed on either a percentage or a weight basis. Special care had been taken by the traffic officers to suggest increases on those commodities which were not greatly liable to diversion to other forms of transport and, generally speaking, the increased rates were to apply only over the longer distances, say over 220 miles.

The decision as rendered by the Interstate Commerce Commission is a lengthy document, which gives a clear and concise review of the whole railway position, and stresses the fact that " the emergency confronting the railroads is of such gravity that they should be permitted to add a system of emergency charges to most of the existing freight rates and charges during the remainder of 1935 and the first half of 1936." The system actually approved by the commission proves similar in a general way to the one formerly in effect during the period January 4, 1932, to September 30, 1933. These previous increased rates were also known as emergency charges, and were approved at the time when the railways' own application for a 15 per cent. flat increase had been turned down by the commission. Unlike the earlier instance there is no provision in the present case for the revenue derived from the increased charges to be segregated to a separate account for loans to railways unable to earn their fixed charges. The Railroad Credit Corporation, which controlled these funds, is now liquidating its resources, its functions having been taken over during the last two years by the Reconstruction Finance Corporation.

It is too early as yet to assess with accuracy the financial advantages likely to accrue to the American railways through the new emergency charges, but there are many, like Commissioners Aitchison, Porter, Miller, and Tate, who believe that much traffic will be lost to the road competitor, at any rate until adequate legislation covering interstate road traffic has been passed by Congress. The scales of increase vary slightly in the three classification

XUM

territories, but on carload traffic they amount to 7 per cent. of the total line haul transportation charges subject to a maximum of five cents per hundred pounds. Certain commodities, however, appear to be exempted. The emergency charges are to remain in force until the end of June, 1936. It may be noted that the average receipt per ton-mile on the American railroads taken as a whole is very low and for 1934 had fallen for all commodities to well under one cent.

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Seventh Annual Review of Railway Charges

THE annual review of the standard and exceptional charges of each of the four amalgamated railway companies which the Railway Rates Tribunal has announced that it intends holding on May 21, will be the seventh review held by that body since the new standard charges came into operation on January 1, 1928. This duty is placed upon the tribunal by Section 59 (1) of the Railways Act, 1921, which directs them to review the charges of each amalgamated company at the end of each financial year unless the Minister of Transport decides that the review need not be held. The Minister has not exercised his power to cancel the inquiry for the year 1934 and, following its usual custom, the tribunal has therefore called upon the railway companies to furnish detailed accounts and statements to enable the inquiry to proceed at the public hearing. Section 59 (3) of the same Act directs the tribunal to compare the net revenue or average annual net revenue of each company with its standard revenue plus any allowances granted in respect of additional capital raised or provided in respect of expenditure on capital account incurred since January 1, 1928. The standard revenue of the four group companies, including allowances for capital raised or provided between January 1, 1928, and December 31, 1933, amounted to £51,299,867, and as the net revenues of the companies during the year 1934 were only £31,480,716, they were thus £19,819,151 short of the standard, although this represented an improvement of £2,676,553 over the previous year. If, however, the average of the last three years' earnings is taken, there is a deficiency of no less than £22,396,511 (excluding the allowance for additional capital claimed in respect of 1934) so that by either method of calculation the deficiency is very large indeed.

Having regard to these facts, the tribunal is directed by the same statute to consider whether the deficiencies are due to any lack of efficiency or economy in the management of the undertakings. It has never been contended at these annual reviews on behalf of the trading community that the railways were not efficiently worked, and fairly comprehensive evidence has been given on the last two occasions of the many and varied directions in which the companies have been endeavouring to secure economy with efficiency. In addition, fairly comprehensive statements on the subject have been given from time to time at the annual general meetings of the various companies. So far as the tribunal is concerned, the statements furnished them indicate that while railway gross receipts increased by about £5,811,000 compared with 1933, railway working expenditure rose only by £3,560,000. This very satisfactory attempt at keeping down expenditure was not achieved at the expense of efficiency, for we imagine it will be generally admitted that railway enterprise and efficiency are now too well known to be doubted.

If the tribunal is satisfied that the deficiency in net revenue as compared with the standard was not due to any lack of efficiency or economy in management, its next task is to decide whether a similar state of affairs is likely to continue. Its decision on this point should not be difficult to reach, as unfortunately the published estimates of the gross railway receipts for the first sixteen weeks of 1935 show a reduction of just over £300,000 as compared with the corresponding period of 1934 and, even after allowing for the variation in the incidence of Easter and its influence upon railway receipts, the outlook is certainly not so promising as it was at this time last year. Should the tribunal decide that the deficiency is likely to continue, it is faced with the necessity of deciding what modifications, if any, it should make in the standard and exceptional charges in order to enable the companies to earn their standard revenues plus the allowances in respect of additional capital. The companies were invited by the tribunal, as in former years, to give their views on this point, and they have again intimated that, after very carefully considering the position, they are still doubtful whether a general increase of charges at the present time would materially improve their financial position, while the state of their revenue does not enable them to propose any reductions. At the same time they add that they desire to reserve the right, as in former years, to bring forward proposals for increasing charges when, in their view, circumstances justify such a course.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Atlantic Coast and Atlantic City Railroads, U.S.A.

The Pennsylvania Railroad,
Philadelphia, April 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I thank you very much for the extra copies of THE RAILWAY GAZETTE of March 22, describing the continuous cab signals on the Pennsylvania, and also for the Supplement; the discussion on page 575 on high speeds and signalling problems is very interesting.

I thank you also for your statement in the editorial on page 541 as to the progressive policy of the Signal Department over which I have presided for more than twenty-seven years. We have tried to keep ahead of the game; as a matter of fact, we have had to. There are still some things to be done.

I call your attention to one correction in Fig. 1 on page 552. The two railroads between Philadelphia and Atlantic City, formerly our old West Jersey & Seashore Line and the Atlantic City RR. of the Reading company, have now been combined under joint ownership and are operated by an independent organisation known as The Pennsylvania-Reading Seashore Lines.

The Atlantic Coast Line, as the Atlantic City RR. was erroneously called on the map in question, is 5,148 miles long, including branches, has 846 locomotives, and about 32,000 cars. It extends from Norfolk, Va., in the north to the southern end of the Florida peninsula, with branches to Atlanta, Ga., and Montgomery, Ala., and a very large number of branches in the Carolinas and Georgia. Its through trains run over the Pennsylvania from New York to Washington, then over the Richmond, Fredericksburg & Potomac Railroad to Richmond, Va., thence from Richmond south connecting with the line from Norfolk at Rocky Mount, North Carolina.

Yours very truly,

A. H. RUDD
Chief Signal Engineer

PUBLICATIONS RECEIVED

Binnenscheepvaartheffingen in Nederland en het Wetsontwerp-Verkeersfonds (Tolls and Taxes on Inland Water Traffic in the Netherlands and the Proposed Law for establishing a Transport Fund). By S. A. Reitsma, Editor-in-Chief of *Spoor- en Tramwegen*. Drukkerij Holland, N.V. Amsterdam. Reprint in booklet form of a paper prepared for the 10th Inland Navigation Congress held at Hengelo, Holland, June 12 to June 14, 1934. 9½ in. by 6¼ in. 164 pp. No price stated.—Since he assumed the editorship of our esteemed contemporary *Spoor- en Tramwegen*, when it was established some eight years ago, Mr. Reitsma has been an active protagonist of a campaign for restoring something like order into the chaotic conditions reigning in the Dutch Transport world. These conditions have indeed been improved in some measure as a result of the change in opinion produced by Mr. Reitsma's efforts, among other things, but there is much to be done yet and the fringe of the problem alone has been dealt with. Holland is a country in which, for several reasons, inland water transport has played a great part, and there has thus always been a good deal of competition with the railways, a large mileage of which has for long been the property of the State although leased to a company to work. In recent years the arrival of motor vehicles, for which the general flatness of the country seemed particularly suited, and the institution of an absolutely unrestricted competition from them, led to a grave state of affairs, so much so that, as a result of recommendations made by at least two commissions, the State saw itself compelled to make a move towards straightening out the tangle.

Mr. Reitsma's paper has four parts, and covers the historical, legal and financial sides of the question. The origin of the present state of affairs is clearly shown, as well as the way in which the various canals have been built and financed, whether publicly or privately owned. The author's argument is that every means of transport should be run on sound economic principles, based on a proper scientific investigation into its true costs. It is contended that owing to the indifference of the tax-paying public and advantages reaped from the situation by some favoured circles the real costs of much of the water transport in the Netherlantls have never been grasped. Mr. Reitsma seeks to bring them to light and to show, by a merciless array of figures, that a definitely uneconomic policy has been followed in the past, the burden of which is felt to-day and greatly contributes to aggravate the position.

Mr. Reitsma admits that in certain circumstances transport undertakings may justifiably be run at a loss if some compensatory effect of capital importance is to be gained; but he contends that when cautiously undertaken for a definite purpose, this is very different from the too frequent habits of times gone by, when deficits were often accepted as a matter of course and the loss was swallowed up in the general budget, which the taxpayer had to meet. Mr. Reitsma has consistently taught that all types of transport should support themselves. Were a rational system of tolls instituted everywhere in the country, including those waterways on which they were abolished years ago, the sums required would be little felt by the individual shippers but would probably suffice to put water transport on an economic basis, certainly on a much sounder one than it is now. This we understand to be the main conclusion of Mr. Reitsma's weighty contribution to the subject. The only alternative to elaborate monetary restrictions, designed to limit a country's facilities to its people's spending power, is to increase the spending power of the people until they are satisfied. If that quite possible course were taken, it would probably be found that facilities would have to be extended rather than restricted.

Holidays on the Continent.—Facilities for escorted or independent travel to all the best-known holiday centres in Europe are described in an illustrated handbook which we have received from Dean & Dawson Limited. Austria is also dealt with in a separate folder, since the country is now served by connections off the popular William Tell tourist expresses to Switzerland. Northern Europe is sometimes overlooked when planning a Continental holiday, but a tour to Norway, Sweden, and Denmark at an inclusive charge of 27 guineas, leaving London on four Saturdays during June, July and August, should serve to make its attractions more widely appreciated. The prices of the Anglo-Hungarian train cruises organised by Dean and Dawson Limited to which we referred in our issue of April 12 were inadvertently transposed. The cruise via Flushing and Cologne should read 25 guineas, and that via Boulogne, Montreux, &c., 27 guineas.

British Coal, Iron, and Steel. London: Ed. J. Burrow & Co. Ltd., 125, Strand, for Baldwins Limited. 10½ in. by 7½ in. 96 pp. Illustrated.—"British Coal, Iron, and Steel" is, as its sub-title states, "a brief survey of the productions of Baldwins." This great steel manufacturing corporation was formed in 1902, following the amalgamation of Wright, Butler & Co. Ltd., E. P. & N. Baldwin Limited, Alfred Baldwin & Co. Ltd., the Blackwall Galvanised Iron Co. Ltd., and the Bryn Navigation Colliery Co. Ltd. It brought under the control of one undertaking both the supply of the raw material and the manufacture of the finished article. The story of these processes is here traced through successive chapters entitled "coal and the source of power," "iron the basis metal," "from iron to steel," and "steel in modern life." Throughout, there are many excellent illustrations, which deserve praise for both their illustrative and æsthetic qualities. In addition to an introductory chapter giving a brief history of Baldwins, there are appended at the end of the volume data concerning the many ramifications of the corporation's activities, and a series of useful tables of weights and gauges. Bound in a strong light-blue imitation leather cover, this makes a most attractive book.

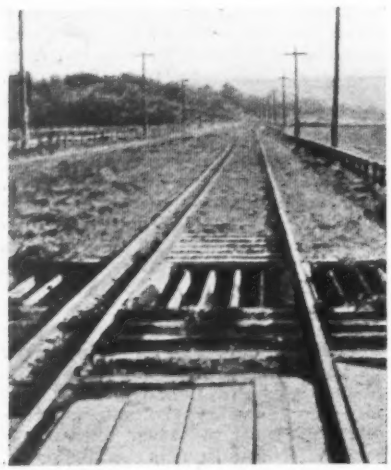
Thermostatic Control.—Fifteen applications of thermostatic temperature control are outlined, and interpreted with considerable latitude and wit by a series of black-and-white thumbnail sketches, in a catalogue received from the Magnetic Valve Co. Ltd., 43, Bloomsbury Square, W.C.1. Whatever the duty to which it is applied, the system ensures the economic use of heat by eliminating wasteful output of energy, by which low fuel consumption is ensured. Magnetic valves provide a simple and reliable intermediary between the thermostat and the apparatus it is installed to control. They are electrically operated, but use very little current and are free from intricate mechanism. Whether for maintaining a uniform temperature in a building or for controlling the flow in a large steam main they give equally satisfactory results. A new type of magnetically-operated valve to which reference is made in the catalogue is the Modulator, which not only permits both heating and hot-water systems to be worked from the same boiler, but allows water to be circulated at different temperatures through the various sections of a heating installation.

Special Process Equipment.—This is a copiously illustrated survey of the many classes of industrial equipment for heavy purposes which have been supplied at different times by Babcock & Wilcox Limited, of Babcock House, Farringdon Street, E.C.4. The company's shop facilities are such that only the limitations of size imposed by the clearances necessary in transport restrict the plant that can be produced. Pressure vessels are constructed by the same methods as the celebrated Babcock & Wilcox boilers, and are either riveted or welded. All types of welding are performed, but in particular a fusion-welding system which is described in the booklet. This is subject to rigorous tests and is designed to give the maximum protection against failure. Fractionating columns, reaction chambers, and heat exchangers are among the examples of large-scale apparatus supplied to various works, and the company also constructs equipment which is not required to stand any appreciable pressure, such as coal driers, kilns, steel chimneys, and so on. An outline of the Babcock Tate system of electrical valve control concludes the publication.

XUM

THE SCRAP HEAP

More than sufficient current to run the whole of London's underground railway system at its peak load time will be generated by the machinery of the new French C.G.T. turbo-electric liner *Normandie* which is shortly being commissioned for the North Atlantic service. The normal output of each of her four main turbo-generators (for propulsion) is 33,400 kW., a total of 133,600 kW., and the auxiliary generators (for lighting, pumping, and heating), give a load of 13,200 kW., bringing the total up to 146,800 kW., or appreciably more than is required for the London underground.



A picture from our American contemporary, the "Railway Age," showing a section of the 3-ft. 9¼-in. gauge Arcata & Mad River Railroad (California), believed to be the only line of this gauge in existence. The third rail accommodates vehicles of the Northwestern Pacific Railroad

A.—"I was called over the coals the other day for calling a loco. fireman a stoker; was I right or wrong?"

B.—Mechanically right; manually wrong.

* * *

Two groups of retired employees, which are believed to be without parallel in the records of any other company or business in the world, are disclosed in the annual report of the Pennsylvania Railroad's Pension Department for 1934. The first group consists of a list of 51 men carried on the pension rolls, each of whom at the close of 1934 had attained the age of 90 or over. The second group is composed of 49 men, each of whom had worked for the company 55 years or more at the time of his retirement. The combined age of the 90-year veterans—the "grand old men of American railroading"—was 4,651 years. The senior pensioner, Joseph R. Jones, is now in his hundredth year, having celebrated his ninety-ninth birthday on September 29, 1934. Mr. Jones, a veteran of the Civil War, is in good health and if he passes the next anniversary of his birth he will be the third retired Pennsylvania Railroad worker to reach the century mark since the pension plan was established on January 1, 1900. Of the men in the 90-year group, only one was of officer rank. He is James P. Orr, formerly Assistant Freight Traffic Manager at Pittsburgh, who is now 91 years old.

* * *

ECONOMICAL AND USEFUL HINTS FOR NEW RAILWAYS

The following notes, signed "Observer," appeared in *Herapath's Railway and Commercial Journal* (one of the papers now absorbed in THE RAILWAY GAZETTE) on November 16, 1844:—

1.—To have as few stations as possible, as constant stoppages neutralise the object of the railways, which is speed.

2.—To have no cheap excursion trains, which will be the ruin of railways.

3.—To paint on the station-house the name of the place, and to do away with the present large boards, which may be very costly on a long line. As to the word station, it is absurd—all the world knows it is the station.

4.—To have only mile stones, and not the quarters; it might almost suffice to have a post every three miles, as the speed is so great—this would save £100 or £200 on a long line.

5.—In the dark there should be two green or blue lamps at the back of every train, so that if one went out the other would remain; had this been so the recent accident on the Croydon Railway would not have occurred.

6.—The police on the line should place their arms outwards, and not, as some do, by their side, as in the latter case the engine-driver does not see the arm till he passes the man.

7.—Let no permanent terminus be built till a year or two after the line is completed, as a change is most ruinous. (It is stated, but cannot be true, that the Eastern Counties intend to bring their terminus to Finsbury-square.)

8.—To build every station on a small scale at first; but on such a plan that it can be enlarged when necessary. (Look at the most extravagant station at Brighton, half of which being found useless is offered for hire.)

9.—To avoid temporary stations as much as possible.

10.—Give no daily or annual tickets, as no one takes them who is not obliged to spend treble the amount in fares.

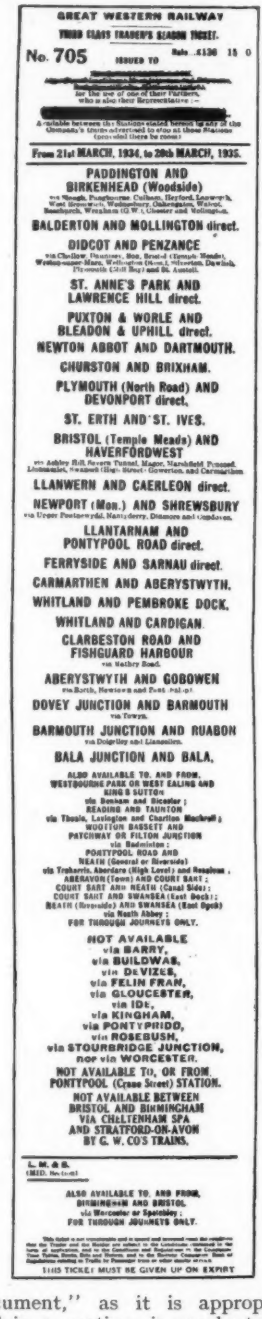
* * *

NORTH STAFFORDSHIRE RAILWAY

It is complained that Mr. Forsyth, manager, has ordered the whole of the employees, with the exception of the engine drivers to cut off their beards and moustaches, on pain of instant dismissal; and has, in one instance, at least, actually inflicted the proffered alternative by discharging the recusants.—*From a newspaper dated January 21, 1854.*

* * *

The accompanying illustration of a trader's ticket is reproduced from the *Great Western Railway Magazine*. The


GREAT WESTERN RAILWAY

THIRD CLASS TRADER'S SEASON TICKET.

No. 705 ISSUED TO

[redacted]

for the use of one of their Partners, who is also their Representative:—

[redacted]

available between the Stations stated hereon up to and including the Company's limits (otherwise than by Express Trains) and there by same

From 21st MARCH, 1934, to 20th MARCH, 1935.

PADDINGTON AND BIRKENHEAD (Woodside)

BALDERTON AND MOLLINGTON direct.

DIDCOT AND PENZANCE

ST. ANNE'S PARK AND LAWRENCE HILL direct.

PUXTON & WORLE AND BLEADON & UPHILL direct.

NEWTON ABBOT AND DARTMOUTH.

CHURSTON AND BRIXHAM.

PLYMOUTH (North Road) AND DEVONPORT direct.

ST. ERTH AND ST. IVES.

BRISTOL (Temple Meads) AND HAVERFORDWEST

LLANWERN AND CAERLEON direct.

NEWPORT (Mon.) AND SHREWSBURY

LLANTARNAM AND PONTYPOOL ROAD direct.

FERRYSIDE AND SARNAU direct.

CARMARTHEN AND ABERYSTWYTH.

WHITLAND AND PEMBROKE DOCK.

WHITLAND AND CARDIGAN.

CLARBESTON ROAD AND FISHGUARD HARBOUR

ABERYSTWYTH AND GOBOWEN

DOVEY JUNCTION AND BARMOUTH

BARMOUTH JUNCTION AND RUABON

BALA JUNCTION AND BALA.

ALSO AVAILABLE TO, AND FROM, WESTBOURNE PARK OR WEST EALING AND KING'S SUTTON

NOT AVAILABLE

via BARRY,
via BUILDWAS,
via DEVIZES,
via FELIN FRAN,
via GLOUCESTER,
via IDE,
via KINGHAM,
via PONTYPRIDD,
via ROSEBUSH,
via STOURBRIDGE JUNCTION, nor via WORCESTER.

NOT AVAILABLE TO, OR FROM, PONTYPOOL (Crane Street) STATION.

NOT AVAILABLE BETWEEN BRISTOL AND BIRMINGHAM VIA CHELTENHAM SPA AND STRATFORD-ON-AVON BY G. W. CO'S TRAINS.

L. M. & S. (MID. Section)

ALSO AVAILABLE TO, AND FROM, BIRMINGHAM AND BRISTOL via Worcester or Spetchley; FOR THROUGH JOURNEYS ONLY.

THIS TICKET MUST BE GIVEN UP ON EXPIRY

"document," as it is appropriately called in a caption, is nearly two feet long, and at a glance the only feasible way of conveying it would seem to be to wear it round the neck. Fortunately, it is designed to be folded into a compass like that of an ordinary season ticket, and the holder is provided with a suitable wallet for its protection.

OVERSEAS RAILWAY AFFAIRS

(*From our special correspondents*)

INDIA

Railway Administration Under Reformed Constitution

The discussion in the British Parliament on the clauses in the Government of India Bill relating to the future administration of Indian railways are not viewed with enthusiasm by Indians in commercial circles. During the last week of March the President of the Federation of Indian Chambers of Commerce referred to the provisions for the establishment of a Statutory Railway Authority by Parliamentary enactment as an attempt to deny Federal Ministers any voice in the control of India's most important asset. Sir Samuel Hoare's reply in the affirmative to an inquiry whether the Chief Commissioner of Railways, under the new regime, could act contrary to the orders of the Statutory Railway Board has provoked further criticism of the actual functions of the Board. A resolution was passed at the annual meeting of the federation protesting against the decision to lay down the constitution of a Federal Railway Authority in the Government of India Bill, instead of bringing it about by an act of the Indian Legislature.

Eastern Bengal Railway Earnings and Expenditure

The total approximate gross earnings of the Eastern Bengal Railway from April 1, 1934, to March 23, 1935, amounted to Rs. 5,26,38,000, as against the audited earnings of Rs. 5,06,62,000 in the corresponding period of 1933-34. The increase of Rs. 19,76,000 is made up of Rs. 8,43,000 under Coaching, Rs. 9,63,000 under Goods, and Rs. 1,70,000 under Miscellaneous earnings. The working expenses for the period April, 1934, to January, 1935, recorded an increase of Rs. 4 lakhs as compared with the same period of the previous year.

Protection of Hardinge Bridge

In the course of a recent discussion on the resuscitation of dying rivers in Bengal in the Bengal Legislative Council, it was suggested that the canalisation of the Mathabhanga River would not only revive the rivers in the Jessore and Nadia Districts, but would also relieve the pressure on the Hardinge Bridge — over which the E.B.R. main line crosses the Ganges— by diverting the flood waters of that river. If the Hardinge Bridge could be thus protected, the Railway Board might, it was suggested, be induced to contribute towards the expenditure on canalisation. The Honourable Member for Irrigation stated that Sir William Willcocks, the irrigation expert, had expressed the view that a comprehensive scheme for the resuscitation of the dead and dying rivers of Bengal involved the construction of a barrage across the Ganges at a cost of from Rs. 8 to 16 crores. As for the canalisation of the Mathabhanga, the Honourable Member did not think that the proposal would materially benefit the situation at the Hardinge Bridge. The volume of water passing at the bridge was 1,600,000 cusecs, while the carrying capacity of the Mathabhanga was only 37,000 cusecs. If the mouth of the Mathabhanga was widened to take in a larger volume of water from the Ganges, there was a likelihood of the Ganges leaving its course and flowing down the Mathabhanga, as a result of which the whole countryside might be flooded. The Honourable Member suggested that if a scheme could be evolved by which a substantial volume of water could be diverted from the Ganges to the Bhagirathi, Kalangi and Mathabhanga Rivers, sufficient to relieve the pressure on the Hardinge Bridge, the Bengal Government might then reasonably ask the Railway Board to bear a part of the expenditure involved in such a project.

IRELAND

County Donegal

In the report of the County Donegal Transport Committee issued on April 5, it is stated that there is no intention to curtail services on, or cease working any section of the County Donegal Joint system, at any rate at present. But, failing payment of a requisite subsidy to the Londonderry & Lough Swilly Railway Company, the committee feared that the days of this company's activities were numbered, and that the line would be closed entirely.

Suggestions had been received for the construction of several new lines of railway, the most important of which was one from Sligo to Ballyshannon. It would be 28 miles in length, and its construction was advocated by the representatives of the Great Southern Railways, who, however, stated that that administration could neither build nor work the line without subsidies. In the circumstances the committee could support neither this nor the fifteen other projects.

Order to Close the Galway-Clifden Railway, G.S.R.

The finance committee of the Galway County Council is to ask the Minister of Industry and Commerce to withhold the grant of an order for the closing of the Galway-Clifden Railway on and from April 29. It is feared that the additional traffic that will be thrown upon the road between these places will submerge it in the bog it traverses. This railway is a 49-mile branch of the Great Southern Railways, or a continuation of the Dublin-Athlone-Galway line northwestwards to the west coast at another point.

CHILE

Antofagasta-Salta Railway

According to advices from Santiago, work on the new international transandine railway from Antofagasta to Salta (Argentina) is being pushed on steadily. It is anticipated that by the end of April some 86 km. of embankments will have been completed and ready for rail laying; 50,000 sleepers have been ordered.

Chilean Transandine Railway

The control of the Chilean Transandine Railway Company is vested in the Government of Chile by virtue of its holding 70 per cent. of the shares in the concern. It is hardly surprising, therefore, to learn that the administration of the line was transferred to the Chilean State Railways last autumn, and that economies in operation dictated this change. As the system is only 70·5 km. (44 miles) in length and has a common junction point with the State system at Los Andes, which is within about 80 or 90 miles of either Valparaiso or Santiago, it could be conveniently worked and administered, almost as a part of the State Railways. Unity of operation is moreover facilitated by the fact that the State line from Calera to Los Andes is of the same—metre—gauge as the Transandine and both are equipped for electric traction.

FINLAND

State Railways Budget for 1936

The revenue expected during the year 1936 from passenger traffic is Fmks. 215 million and from freight traffic, Fmks. 573 million, making the expected total revenue Fmks. 840·7 million. On the other hand total expenditure is estimated at Fmks. 744,576,000 which is Fmks. 21,484,000 more than in the 1935 budget. The probable surplus of revenue over expenditure is therefore only Fmks. 96·1 million as compared with Fmks. 114·8 million in the 1935 Budget. Appropriations for workshops have been raised to Fmks. 133·7 million against 115 million in 1935.

The total of capital expenditure is fixed at Fmks. 175·2 million, compared with Fmks. 142·59 million in 1935, of which the more important items are the following:—

	1936 Fmks.	1935 Fmks.
New lines ...	... 70 million	66 million
Rolling stock ...	... 35·45 ,,	25·5 ,,
Construction work on existing lines	... 52·45 ,,	44 ,,

The lines under construction are from Pori to Haapamaki, from Warkaus to Viinijarvi, from Vuoksenniska to Elisenvaara and from Kontiomaki to Taivalkoski. Under the heading of

XUM

rolling stock, provision has been made for five express locomotives, five third class carriages, three second and third class composite sleepers and 400 open trucks. The sum of Fmks. 1,150,000 has been earmarked for the purchase of motor transport, according to advice received from the Department of Overseas Trade.

MANCHUKUO

Future Administration of the State System

The Manchukuo Government proposes to establish two railway groups or zones. All Manchukuo-owned lines in Southern Manchukuo will continue to be controlled from Mukden, but the complete State system in Northern Manchukuo is to be administered from a new headquarters at Harbin. This is the natural sequence to the taking over of the old Chinese Eastern, which becomes the North Manchuria Railway. The conversion of the gauge of the Hsinking-Harbin or Southern section of this line from 5 ft. 0 in. to 4 ft. 8½ in., is to be undertaken immediately after the system is formally taken over, to enable a through Dairen-Harbin service to be inaugurated as soon as possible.

Details of the Hsinking-Harbin Gauge Conversion

At Harbin connection will be made between the C.E.R. Harbin station and the State Railways Pinchiang station, see map inset below. At Hsinking where the South Manchuria Railway main line and the C.E.R. main line enter the joint station both from the western end, a loop line will be constructed at the east end to avoid the reversal of through trains between Harbin and Dairen at Hsinking, see second map inset below. As the express trains have an observation car at the tail end this loop is obviously desirable. Reversal would also be objectionable for a special train like the Asia. The Hsinking-Harbin section will be operated as an extension of the S.M.R. main line. The available rolling stock will be used, while the broad gauge stock, much of it in poor repair, will be retained for the broad gauge sections. The gauge conversion will be carried out with the present permanent way materials, with the exception of about 75 per cent. of the sleepers which will have to be renewed. The new sleepers are already in stock at Hsinking ready for use. The signalling system, now right hand, upper quadrant, according to Russian practice, will be replaced by the standard S.M.R. system.

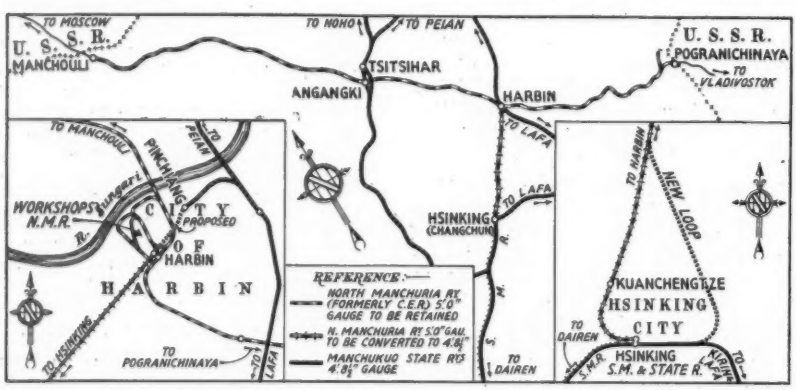
The C.E.R. or N.M.R. main lines from Manchouli to Harbin and Harbin to Pogranichinaya will be retained as broad gauge sections (5 ft. 0 in.) The connection with the Trans-Baikal Railway at the Western frontier and with the Ussuri Railway at the Eastern frontier will be re-established and through traffic will be resumed.

The C.E.R.-N.M.R. Transfer

It is reported that the immediate Chinese Eastern payment of between Y.30 and 40 million, due upon the formal signing of the transfer agreement, is likely to be advanced by the S.M.R. as a loan to the Manchukuo Government. A preliminary instalment of Y.23,300,000 was said to be payable on March 22. One difficulty in the transfer of staff is reported to be the fact that the employees are at present drawing from the C.E.R. wages which are nearly three times those of corresponding grades on the State lines. Those men whose services are retained will, in consequence, have to submit to a gradual decrease in emoluments. Those of Soviet nationality will, in practice, be replaced by Japanese, Manchus and White Russians.

A Record Feathered Manchurian Railway Consignment

A remarkable consignment of game is reported from Dairen, where seven van loads—consisting of over 5,500 cases containing no fewer than 70,000 pheasants—arrived from North Manchuria one day recently. They were consigned to London and were at once loaded into cold storage on a waiting steamer and should be in London early in April, the temperature maintained throughout the voyage being below 15° C.



Map showing North Manchurian gauge conversion and (inset) relevant new junction arrangements at Harbin and Hsinking

JAPAN

Proposed Submarine Tunnel

The new tunnel to connect Kyushu with the mainland [briefly mentioned in THE RAILWAY GAZETTE of April 5.—ED.] is now stated as unlikely to be started before the financial year 1936-37. It will be 1·6 km. in length and 70 ft. below sea level. The estimated cost is now placed at Y.31 million.

U.S.S.R.

New Ufa-Magnitogorsk Line

Work is now proceeding rapidly on the construction of a new railway, 269 km. (167 miles) in length between the cities of Ufa and Magnitogorsk. A length of 49 km. was finished last year. The completion of the whole line will relieve the South Ural and Samara-Zlatoust railways of freight, and furnish an outlet for the products of Magnitogorsk mines and works to the machine-building plants of Moscow, Leningrad, Gorki, and the Middle and Lower Volga provinces. The principal engineering works involved in the construction are a tunnel 280 m. long, three viaducts, and four major bridges over rivers. Three other railways to connect Magnitogorsk and Orsk, Orsk and Aktyubinsk, and Aktyubinsk with Gurev on the Caspian Sea, are at present under consideration.

New Railway in Mongolia

The construction of a new railway of considerable length has, it is reported, recently been begun in Soviet Russia. The line will run from Chita to Sanpeitzu, a strategic position on the eastern boundary of Outer Mongolia. It is considered to be a rival of the Solun-Wenchuan (Hundshur) Railway now under construction in Manchukuo, and the progress of the work is being watched with keen interest.

CHINA

Peiping-Suiyuan Railway

An alteration of the alignment of the Peiping-Suiyuan Railway in the section between Chotzu Shan and Pingtichuan in south-western Charhar has been begun and is being pushed forward with all speed, nearly 7,500 men being employed on the work. It is hoped to complete the diversion ready for operation early in June.

Lunghai Railway and Airways Co-operation

Through traffic between the Peiping-Canton and Shanghai-Hsinking Airways of the Eurasia Aviation Corporation is now in operation, the interchange point being at Chengchow. A new station is to be built to replace the existing one at Chengchow which is on the Lunghai Railway in central Honan. The estimated cost of the work is $600,000.

IMPRESSIONS OF OVERSEAS TRANSPORT

XVIII—The gauge problem in Australia

By A. W. ARTHURTON, formerly Secretary, British Railways Press Bureau

WHEN I arrived in Australia at the beginning of this year the question of unifying the railway gauges in the various States was again occupying public attention, as a conference of State Premiers had been arranged to consider the whole matter afresh. The scheme to be put before them provided for the conversion of existing railways to a standardised gauge of 4 ft. 8½ in. at an estimated cost of £21,000,000 to be distributed over a period of eight years. The work, it was calculated, would absorb the labour of 15,000 men for a considerable period, and thus assist the various States to cope with their unemployment problem. All the main items in the cost bill —land, labour and capital—were at a lower price than it could be hoped that they would ever be again, and the time and opportunity seemed ripe for disposing once and for all of this important matter, which has agitated the minds of successive governments and administrators since the early days of railways in the Dominion. The conference arranged for February, however, was postponed, and has not yet been held.

I had the privilege of discussing the matter with the Commonwealth Minister of the Interior and gathered that a modified scheme of linking up the five capitals as far as possible by standard gauge lines, which would cost something over £1,000,000, was more likely to be favoured. This would still necessitate change of gauge at Albury between New South Wales and Victoria, and the retention of the 5 ft. 3 in. gauge throughout Victoria and part of South Australia. It would, however, by the building of a new standard gauge line direct from Red Hill to Port Augusta, link up with the standard transcontinental line at the latter point. It would leave the West Australian 3 ft. 6 in. line from Kalgoorlie to Perth as at present, but would greatly facilitate through transit from east to west and avoid the delay and transfer to and from the present 3 ft. 6 in. line from Terowie through Peterborough and Quorn to Port Augusta. This compromise would not, of course, provide a standardised gauge throughout, but would effect a considerable improvement in transit as between Adelaide and Perth. By the extension of the 4 ft. 8½ in. gauge from Kyogle to Brisbane South, there is now no change of gauge between Sydney and Brisbane by the coast route.

Mr. Edward Simms, Secretary of the Commonwealth Railways, who has been identified with the question of unification for many years past, gave me some details of the history of the break of gauge in Australia, and I was interested to notice how frequently the example of the Great Western Railway in England was quoted as an argument in favour of conversion. There are 27,041 miles of Government railways in Australia, of which 6,050 are 5 ft. 3 in.; 7,222 are 4 ft. 8½ in.; 13,605 are 3 ft. 6 in.; and 163 miles of smaller gauges.

When the pioneer lines were constructed in the early 1850's, South Australia and Victoria adopted 5 ft. 3 in. as their gauge, but New South Wales adhered to the standard 4 ft. 8½ in. The railways were built solely to serve the purpose of the day. They started hundreds of miles from colony boundaries, and possible interchange of traffic between the States was not then thought of. The fatal mistake was the selection of different gauges by New South Wales and Victoria. In 1846, Mr. Gladstone, then Colonial Secretary, recommended in a despatch to the Governor of New South Wales that the 4 ft. 8½ in. gauge should be adopted. In 1850, however, the engineer to the Sydney Railroad Tramway Company strongly advocated the 5 ft. 3 in. gauge, but in 1852 the company, having changed its engineer, also changed its views as to the gauge question; it succeeded in obtaining a repeal of the Act of the same year and the passing of another, under the provisions of which the 4 ft. 8½ in. gauge was made imperative. This was done without the concurrence of the other States concerned, and a considerable amount of ill-feeling arose, especially in Victoria, where two private companies had already placed large orders for broad gauge rolling stock. The result was that it was decided in Victoria to adhere to the 5 ft. 3 in. gauge, while the Sydney Railroad & Tramway Company constructed its lines on the 4 ft. 8½ in. gauge, and these have since been maintained as the standard gauges of the respective States. The South Australian Government adopted 5 ft. 3 in., but later selected 3 ft. 6 in. as the gauge for lines in the northern portion of the State. Queensland and Western Australia, however, from the outset adopted the 3 ft. 6 in. gauge.

Discussions of the Gauge Question

Efforts to secure uniformity have been going on for nearly 50 years. The late Mr. E. M. G. Eddy, Chief Commissioner for Railways, New South Wales, on his arrival in Sydney in 1888, urged upon the then Premier, Sir Henry Parkes, the need for unification between New South Wales and Victoria. Nothing was done, however, and the matter remained dormant until 1897 when the Railway Commissioners of New South Wales, Victoria, and South Australia, at the instance of their Premiers, considered the matter and submitted a report recommending the adoption of the 4 ft. 8½ in. gauge. In 1889 the Railway Commissioners in conference resolved that in future any new work on the 5 ft. 3 in. gauge should be designed so as to be easily adapted to the 4 ft. 8½ in. gauge, and from that year all axles ordered for the Victorian Railways were designed so that they could be readily converted for 4 ft. 8½ in., and locomotive fireboxes were also arranged so to be altered if necessary.

In 1911 the War Railway Council in Melbourne, in the interests of defence, affirmed the desirability of a uniform gauge for the main lines of communication. In the following year the Premiers' Conference in Melbourne appointed a committee of leading railway engineers who unanimously recommended the adoption of a standard 4 ft. 8½ in. gauge. In 1915 the War Railway Council in Sydney resolved that the most important railway improvement from a military standpoint would be the unification of the gauges, but with all these conferences, special councils and committees, nothing has been done in the direction of standardisation and railway mileage has grown from 10,826 in 1897 to 27,000 today.

The break of gauge is generally denounced as a commercial evil of the first magnitude and delay in carrying out unification renders the task more difficult and adds largely to the cost of conversion. Uniformity of gauge, apart from reasons of defence, would allow of interchange of wagons according to requirements, facilitate operations, reduce expenditure on rolling stock and abolish the heavy cost and trouble of transhipment.

XUM

BRITISH RAILWAY STATISTICS

"The Railway Gazette" monthly table of freight and passenger traffic figures for January, 1935, as compared with the corresponding period in 1934, compiled from the Ministry of Transport Statement No. 182

Description	Great Britain	Great Western	London & North Eastern	London Midland & Scottish	Southern
PASSENGER TRAIN TRAFFIC—					
Number of passenger journeys (excluding season-ticket holders)	97,856,926	6,822,168	13,484,112	22,069,870	16,682,641
Increase (+) or decrease (−)	+ 2,393,499	+ 69,265	+ 263,132	+ 388,877	+ 413,247
Passenger receipts (excluding season-ticket holders)	£3,135,704	£393,476	£595,214	£915,134	£684,770
Increase (+) or decrease (−)	+ £83,493	+ £11,653	+ £18,598	+ £22,901	+ £21,531
Season ticket receipts	£1,017,714	£69,792	£201,491	£271,633	£313,783
Increase (+) or decrease (−)	− £11,701	− £1,278	− £6,758	− £12,192	+ £9,359
Parcels and miscellaneous traffic receipts (excluding parcels post)	£983,433	£180,961	£303,250	£368,629	£114,062
Increase (+) or decrease (−)	− £640	+ £5,065	+ £6,419	− £3,017	− £1,061
FREIGHT TRAIN TRAFFIC—					
Freight traffic (tons) (excluding free-hauled)	21,806,544	5,256,473	9,776,469	9,976,915	1,325,637
Increase (+) or decrease (−)	− 68,347	+ 33,566	− 55,097	− 156,661	− 37,688
Net ton-miles (excluding free-hauled)	1,198,694,113	223,058,314	405,773,906	481,683,886	53,215,510
Increase (+) or decrease (−)	− 36,657,979	+ 3,115,755	− 14,699,209	− 20,052,567	− 4,400,692
Average length of haul (miles) (excluding free-hauled)	54·97	42·43	41·51	48·28	40·14
Increase (+) or decrease (−)	− 1·50	+ 0·32	− 1·26	− 1·23	− 2·12
Freight traffic receipts	£6,632,801	£1,121,000	£2,202,700	£2,729,000	£364,228
Increase (+) or decrease (−)	− £122,192	+ £2,000	− £59,755	− £48,000	− £13,792
Receipts per ton-mile	1·328d.	1·21d.	1·30d.	1·36d.	1·64d.
Increase (+) or decrease (−)	+ 0·016d.	− 0·02d.	+ 0·01d.	+ 0·03d.	+ 0·07d.
Freight train-loads					
Average train-load (tons)	125·74	132·68	132·61	121·95	102·60
Increase (+) or decrease (−)	− 3·82	− 0·26	− 4·57	− 5·56	− 2·54
Net ton-miles—					
Per train engine-hour	984·22	1,075·96	1,031·45	936·88	816·14
Increase (+) or decrease (−)	+ 21·73	+ 37·75	+ 17·34	+ 1·48	+ 43·88
Per shunting-hour	842·20	775·18	927·49	865·44	554·30
Per total engine-hour	453·85	450·57	489·46	449·87	330·10
Net ton-miles per route-mile per working day	2,629	2,620	2,819	3,058	1,124
Increase (+) or decrease (−)	− 72	+ 41	− 104	− 113	+ 34
Wagon-miles. Total	340,962,274	61,448,474	117,755,205	143,059,068	16,551,329
Increase (+) or decrease (−)	− 8,723,151	+ 889,824	− 4,296,809	− 4,088,200	− 1,075,893
Percentage of loaded to total	66·24	68·07	63·83	67·50	66·03
Wagons per train—					
Total	33·66	33·77	34·37	33·64	30·21
Increase (+) or decrease (−)	− 0·94	− 0·25	− 1·12	− 1·13	− 0·89
Loaded	22·30	22·99	21·94	22·71	19·95
Empty	11·36	10·78	12·43	10·93	10·26
Train-miles. Coaching—					
Per train-hour	15·10	13·97	14·18	14·52	17·61
Per engine-hour	12·10	11·14	11·06	11·07	14·45
Train-miles. Freight—					
Per train-hour	9·17	9·78	9·13	8·95	9·68
Per engine-hour	3·61	3·42	3·74	3·69	3·16
Engine miles. Total	44,587,125	7,095,548	12,272,371	16,429,826	5,861,774
Increase (+) or decrease (−)	+ 454,155	+ 160,625	+ 58,767	+ 206,816	− 11,347
Mileage run by engines. Total train-miles—					
Coaching	21,965,216	3,008,422	5,014,643	6,988,177	4,262,116
Freight	10,129,880	1,819,426	3,425,638	4,253,008	547,793
Engine-hours in traffic. Total	4,818,326	827,410	1,438,179	1,866,517	486,379
Increase (+) or decrease (−)	− 73,356	− 617	− 31,044	− 26,476	− 15,127
Shunting miles per 100 train-miles—					
Coaching	7·57	6·96	6·57	8·35	8·42
Freight	74·57	85·19	70·24	69·82	97·51

* All standard gauge railways

Passenger Traffic Statistics: Number of journeys, receipts, and receipts per journey (excluding season-ticket holders)—January, 1935

Subject	Great Britain	Great Western	London & North Eastern	London Midland & Scottish	Southern	Cheshire Lines Committee	Liverpool Overhead	London Passenger Transport Board†	Mersey
Full fares—									
Passenger journeys	32,668,101	683,324	1,135,713	1,525,785	2,702,950	19,862	159,789	25,580,418	87,247
Gross receipts	£825,646	£66,922	£106,159	£112,738	£176,312	£2,623	£1,642	£343,301	£1,533
Receipts per passenger journey	6·07d.	23·50d.	22·43d.	17·73d.	15·66d.	31·69d.	2·47d.	3·22d.	4·22d.
Reduced fares—									
Excursion and week-end—									
Passenger journeys	35,210,870	3,770,663	7,937,770	12,335,828	7,807,914	372,262	66,718	1,219,927	653,843
Gross receipts	£1,658,003	£258,676	£368,137	£587,080	£362,573	£17,767	£559	£25,794	£9,337
Receipts per passenger journey	11·30d.	16·46d.	11·13d.	11·42d.	11·14d.	11·45d.	2·01d.	5·07d.	3·43d.
Workmen—									
Passenger journeys	26,588,372	1,981,955	3,554,837	7,210,228	5,555,726	239,042	218,520	6,721,328	206,250
Gross receipts	£384,056	£28,825	£57,201	£113,967	£91,192	£4,067	£1,777	£74,457	£1,865
Receipts per passenger journey	3·47d.	3·49d.	3·86d.	3·79d.	3·94d.	4·08d.	1·95d.	2·66d.	2·17d.
Other descriptions—									
Passenger journeys	3,387,291	386,226	855,226	996,705	615,667	55,311	44,679	360,049	11,172
Gross receipts	£264,763	£39,053	£62,941	£99,268	£54,337	£3,644	£287	£3,094	£186
Receipts per passenger journey	18·76d.	24·27d.	17·66d.	23·90d.	21·18d.	15·81d.	1·54d.	2·06d.	4·00d.
Total—									
Passenger journeys	97,856,926	6,822,168	13,484,112	22,069,870	16,682,641	686,493	489,706	33,881,722	958,512
Gross receipts	£3,135,704	£393,476	£595,214	£915,134	£684,770	£28,119	£4,265	£446,646	£12,921
Receipts per passenger journey	7·69d.	13·84d.	10·59d.	9·95d.	9·85d.	9·83d.	2·09d.	3·16d.	3·24d.

† Includes passengers originating on the railway undertakings, and on the Whitechapel and Bow Joint Railway

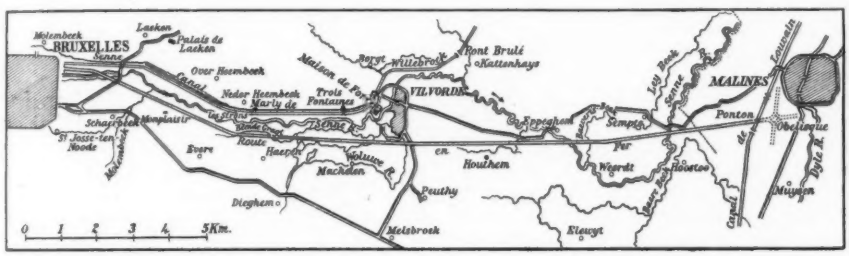
CENTENARY OF THE BELGIAN RAILWAYS

Probably no country owes more to its railways, which were the first in the world to be planned as a system. There are now about 27 route miles to each 100 sq. miles of territory, the greatest density in the world

AS a newly-established kingdom which emerged from the revolution of 1830, Belgium had a strong incentive to develop her transport systems, not only to meet internal needs without crossing frontiers, but also in such a way that her lines of communication should be of international importance. Some of the early considerations are briefly set out in an editorial article on page 768, but once the principle of State ownership had been adopted by the law of May 1, 1834, construction proceeded apace, at the expense of the Treasury, of a railway system based on Malines. It was designed to extend northwards to the port of Antwerp; southwards to Brussels and the French frontier near Valenciennes; westwards to Ghent, Bruges, and Ostend; and eastwards to Louvain, Liége, Verviers, and the Prussian frontier.

Work was begun on the Brussels-Malines section—the first to be undertaken—on June 1, 1834, not quite a month after publication of the law, and on May 5, 1835, this section was formally opened for traffic. This line was not only the first railway in Belgium, but also the first on the European Continent to use steam traction. The first engineer was Albert Simons, but George Stephenson also played an important part in an advisory capacity. This early and important connection with the Belgian railways led to an order, in 1834, for three locomotives from the firm of Robert Stephenson & Co., which transferred the order for one to Tayleur & Co., and itself built the other two. All three engines were of the new standard six-wheeled type. *L'Elephant*, the largest built by Tayleur & Co., had four coupled wheels, and a small pair of leading wheels; while *La Fleche* and *Stephenson*, built at Newcastle, had single driving wheels.

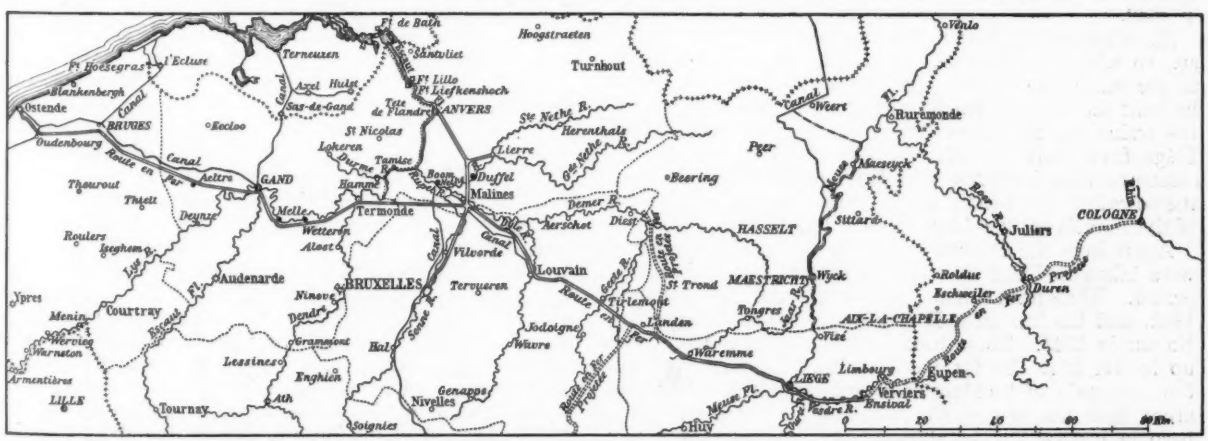
These three locomotives were all in service on the opening day, and, in view of British participation in the work, it was fitting that the first train should have been in charge of an English driver, while George Stephenson travelled in one of the carriages. Both he and Robert Stephenson were honoured by King Leopold in recognition of their services in the development of railways and improvement of the locomotive. The following is a contemporary account of the opening ceremony:—



Reproduction of an 1835 map (but with modern kilometre scale) of the Brussels-Malines Railway—the first Belgian line

At a quarter past twelve o'clock the King being at the station, near the Boulevards, to witness the ceremony, the departure of the steam-carriage train was announced by a salute of artillery. Immediately three files of 10 carriages, each carrying nearly a thousand persons, began to move, drawn by *La Fleche*, *Stephenson*, and *L'Elephant*. The passage from Brussels to Malines occupied 53 minutes. On their return *L'Elephant* took in tow all the 30 carriages that had been drawn by the three locomotives, and would probably have reached Brussels in half an hour, had it not been obliged to stop at Vilvorde for a fresh supply of water. In the evening, the Minister of the Interior gave a public dinner to 200 of the principal persons, natives and foreigners, who were present at the ceremony.

At first, the carriages were first and second class only. In a week or two it was discovered that nobody used the first class carriages, and they were therefore taken off, the second class only remaining. For many weeks after the opening of the Brussels-Malines line, the points of departure were besieged by wondering crowds anxious to



An early Belgian map (but with modern kilometre scale) showing the railway system as originally planned to link Ostend and the Prussian frontier, with branches from Malines to Brussels and Antwerp

XUM

obtain seats in the trains. The supply of carriages, however, was meagre, and speculators made large profits by buying up tickets and re-selling them at a premium. As soon as the number of carriages was increased, this lucrative trade came to an end. Five trains a day were run between Brussels and Malines, and *vice versa*; but on Sundays the crowds were so great that the trains succeeded each other with only a few minutes' interval. The carriages on the early Belgian lines were even ruder than early ones in England, and they had to be mounted by means of ladders. This primitive method was, however, soon superseded. An opening, without door, was made in one side of the carriage, and the traveller in ascending rested his foot on a triangular iron step. As many accidents occurred by reason of the smallness of this step, it was speedily replaced by the wooden foot-board and doors were placed in the entrance apertures. These primitive open cars remained in use for something like ten years, and they were then replaced by covered carriages, but with the sides still open to wind and weather. At first, the cold was shut out by curtains, and later by movable sheet-iron shutters.

On May 4, 1836, the Brussels-Malines line was extended to Antwerp and then three classes of carriage were permanently adopted. The third class carriages were termed *wagons*, the second *chars-à-bancs*, and the first *diligences*. The original *chars-à-bancs* contained forty passengers, all of whom had to enter and leave by one door. Later on they were constructed to carry eighteen, and finally to carry ten as at present. The first-class *diligences* were a distinct improvement upon any carriages which, down to the date of their introduction, had been in use upon the Belgian lines. There was a corridor down the centre, and the seats were arranged in compartments, each containing eight places, four on a side. These carriages were necessarily somewhat stuffy, but they were, generally speaking, comfortable, and the traveller no longer had aught to fear from the weather. They long remained in general use. Up to 1868 they were commonly met with on the Belgian lines, but were subsequently withdrawn, although a few lasted until the early 'eighties.

Completion of Original System

The remaining parts of the original system were opened as follow: Malines to Ghent in 1837 and thence to Ostend in 1838; Malines to Louvain and Tirlemont in 1837, thence to Ans in 1838, to Liége in 1842, and through Verviers to the Prussian frontier in 1843; Brussels to Halle in 1840, to Mons in 1841, and to the French frontier at Quievrain in 1842.

M. Simons hardly saw the completion of the railway system which he planned, for he died on May 14, 1843, at the early age of 46. In conjunction with H. Maus he built the engines which, with the aid of cables, hauled the trains up the steep incline on the Malines side of Liége from 1842 to 1871, on a gradient of 0·028. He constructed the first railway bridge over the Meuse at Liége, the so-called Val-Benoit bridge, and directed the boring of the tunnels on the Liége-Aachen line.

Apart from the original railway system, two other lines were taken in hand by the Government about the same period. That from Ghent to Courtrai was completed in 1842, and the line from Braine-le-Compte to Manage and Namur in 1843. These brought the Belgian railway total up to 541 km. So far the State had reserved for itself the monopoly of building railways, but the popular idea arose that the new mode of transit was too costly to become general, or to allow of the transport of heavy goods, by reason of competition from the waterways. The low rates, rendered necessary as a matter of course, gave such unsatisfactory financial results that, when the Government proposed fresh schemes of extension, the Chambers refused to sanction a further outlay. Thus an opportunity was given for private enterprise to carry on further construction.

In 1842 the State granted a private company the right to build a line, 50 km. in length, from Antwerp, Tête de Flandre (now Rive Gauche), to Ghent. Other concessions followed in 1845-1846, including chiefly the sections of Namur-Liége, Charleroi-French frontier, Antwerp-Dutch frontier, and Entre-Sambre and Meuse, and subsequently the West Flanders lines and those of the Province of Luxemburg.

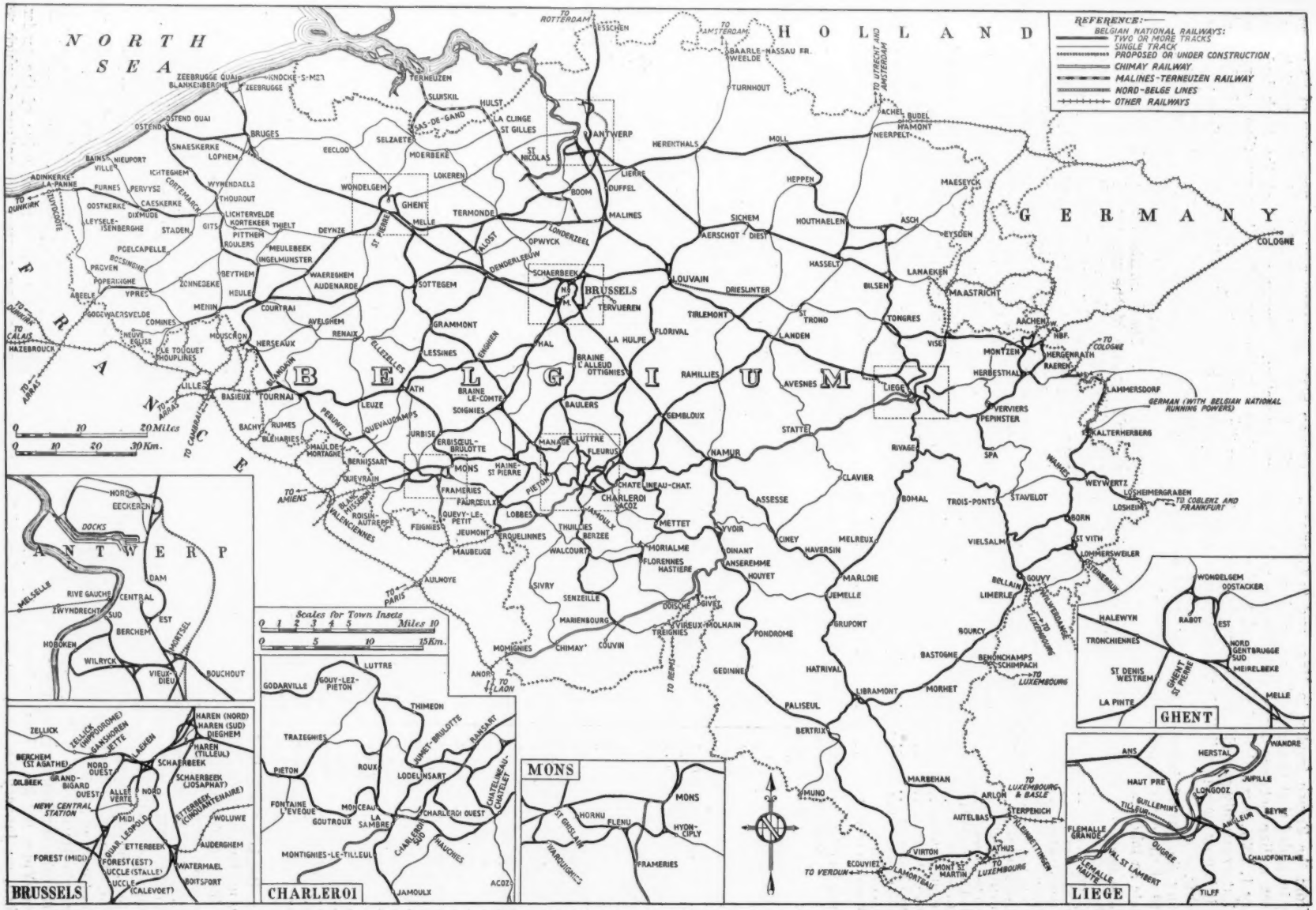
In granting concessions to private companies the State followed one of two methods, either (*a*) the company constructed the lines which were then operated by the State, or (*b*) both construction and operation were carried out by the company. In the latter case the companies were naturally tempted to consider their own advantage, and by combining were able to compete actively with the earlier State lines.

The Antwerp-Dutch frontier, Entre-Sambre and Meuse, Louvain-Charleroi, and Chatelineau-Morialme lines were amalgamated in 1864 as the Société du Grand Central Belge, the name of this company corresponding to the geographical position of its network; the Aix-Maestricht-Landen line was added to it in 1867.

Fears of Foreign Control

In addition to the foregoing considerations, the fear that the companies might come under the control of foreign financiers induced the Belgian Government to adopt the policy of acquiring the railways, which has been consistently followed since 1871. This policy permitted of a unification of tariffs and regulation of competition as now exists between the railways and waterways.

Perhaps the most important example of Belgian lines passing to foreign control was provided by the system now known as the Nord-Belge. On August 12, 1845, a concession was granted to the Société de Chemin de fer de Namur à Liége, an English-owned company incorporated in Belgium, to build a line through the Meuse Valley from Liége to Namur, a distance of 60 km., for a distance of 12 of which outside Liége there is a route on each bank of the river. This line was opened on September 5, 1851. The English company ceased to work the line in 1854 and made it over in the following year to the French C. de f. du Nord—which adopted the name Nord-Belge for this territory—against a fixed annual rental of one million francs, which is still being paid and justifies the continuance of the legal existence of the old company. In the original concession one of the articles stipulated that the period of its validity was to be " 90 years from the time when the whole line shall have been brought into use," while another laid down that if within ten years of the granting of the concession France should build a railway to Givet, also on the Meuse, at the Belgian frontier, the company should be obliged to prolong its line another 50 km. from Namur to join up, and, in that case, " the date of the expiration of the concession for the whole line shall be that prescribed for the Liége-Namur section." A line was in fact built to Givet by the Est Company in 1858 and the Nord-Belge line, the financial position of which apparently was not very good at the time, built the extension, under some pressure from the Belgian Government, and completed it in 1863. A dispute as to the interpretation of this arrangement was settled in 1933 by the decision of the Belgian Courts that the concession should expire in 1941. (This was referred to in our issue of October 13, 1933.) In addition, the Nord-Belge has



Map of the Belgian railway system indicating lines worked by the Belgian National Railways Company and by private companies. The extensive secondary and local light railway network is not shown

lines from the French frontier to Mons and to Charleroi. It may be added that the original Namur-Liége company possesses a line between Mons and Manage which, on January 1, 1857, was to have been leased to the French Nord, but eventually passed to the Belgian Government, to which it is now leased until 1941 at an annual rental of 672,330 fr.

During the period between 1870 and 1900 no fewer than 18 of the concessioned railways were taken over by the State as follow:—

Bassins-Houillers	January 1, 1871.
Pepinster to Spa	September 16, 1872.
Luxembourg	January 1, 1873.
Dendtre-et-Waes	May 1, 1876.
Lignes des Flandres	January 1, 1878.
St. Ghislain to Erbisœul	September 16, 1879.
Antwerp to the frontier	July 1, 1880.
Marbehan to Virton	March 15, 1881.
Lierre to Turnhout	March 1, 1882.
Antwerp to Ghent	January 1, 1896.
Liégeois-Limbourgeois	January 1, 1896.
Ghent to Eecloo	January 1, 1897.
Grand Central Belge	January 1, 1897.
Plateaux de Herve	September 7, 1897.
Sichem to Montaigu	July 1, 1898.
Liége-Limbourgeois to the Dutch frontier	January 1, 1899.
Hesbaye-Condroz	January 1, 1900.
Saint-Trond to Hasselt	July 1, 1900.

TABLE SHOWING THE GRADUAL EXTENSION OF THE BELGIAN STATE RAILWAYS FROM 1835 TO 1900

Year	Mean length of line km.	Year	Mean length of line km.
1835	13·5	1868	862·7
1836	35·7	1869	862·7
1837	90·8	1870	868·7
1838	202·6	1871	1,422·2
1839	273·3	1872	1,469·6
1840	324·7	1873	1,871·1
1841	340·5	1874	1,925·1
1842	398·5	1875	1,966·5
1843	485·5	1876	2,053·2
1844	559·8	1877	2,144·7
1845	559·8	1878	2,435·3
1846	559·8	1879	2,552·0
1847	569·6	1880	2,724·0
1848	594·9	1881	2,869·5
1849	624·6	1882	3,004·0
1850	624·6	1883	3,074·1
1851	624·6	1884	3,129·0
1852	624·6	1885	3,173·1
1853	631·4	1886	3,199·9
1854	636·6	1887	3,216·6
1855	652·4	1888	3,226·8
1856	713·1	1889	3,235·4
1857	744·6	1890	3,248·6
1858	745·7	1891	3,269·4
1859	745·7	1892	3,275·8
1860	747·2	1893	3,278·7
1861	748·6	1894	3,288·6
1862	748·6	1895	3,298·8
1863	748·6	1896	3,502·1
1864	748·6	1897	3,991·6
1865	749·2	1898	4,003·9
1866	789·8	1899	4,039·9
1867	862·7	1900	4,050·1

The Belgian State Railways mileage remained practically unchanged from the beginning of the present century until the acquisition of the West Flanders Railway, one of the most important systems then remaining in private hands. This was formally purchased by the State on January 1, 1906, but it continued to be worked by the company for exactly two years longer. In January, 1908, therefore, the State-operated mileage was increased by the 178 km. of the West Flanders lines, which were as follow: Bruges-Courtrai (52 km.); Courtrai-Poperinghe (43 km.); Poperinghe-Hazebrouck (6 km. in Belgium and 15 km. in France); Ingelmunster-Deynze via Thielt (25 km.); Roulers-Ypres (22 km.); Roulers-Menin (15 km.).

When, on January 10, 1919, the Administration of the Belgian State Railways resumed possession of its system after the war, it found itself faced with a great task of reconstruction. Nearly a third of the track had been destroyed in the course of military operations, or removed by the German forces. Some 350 important bridges and one tunnel had been demolished, 359 stations were inaccessible, and the principal sidings had been blown up. Most of the locomotives had been rendered useless, and the remainder had suffered the abnormal wear of four years of war. The Administration's task was all the more difficult because of the urgency of helping in the rapid re-establishment of the economic life of the country. The hasty work done by the Allied armies to rebuild the bridges in the devastated zone constituted, in spite of its temporary character, the starting-point of the task ahead. It was not until 1930 that the temporary tracks and bridges constructed by the British Railway operating Division and the Royal Engineers in the British Army's sector were replaced by permanent structures.

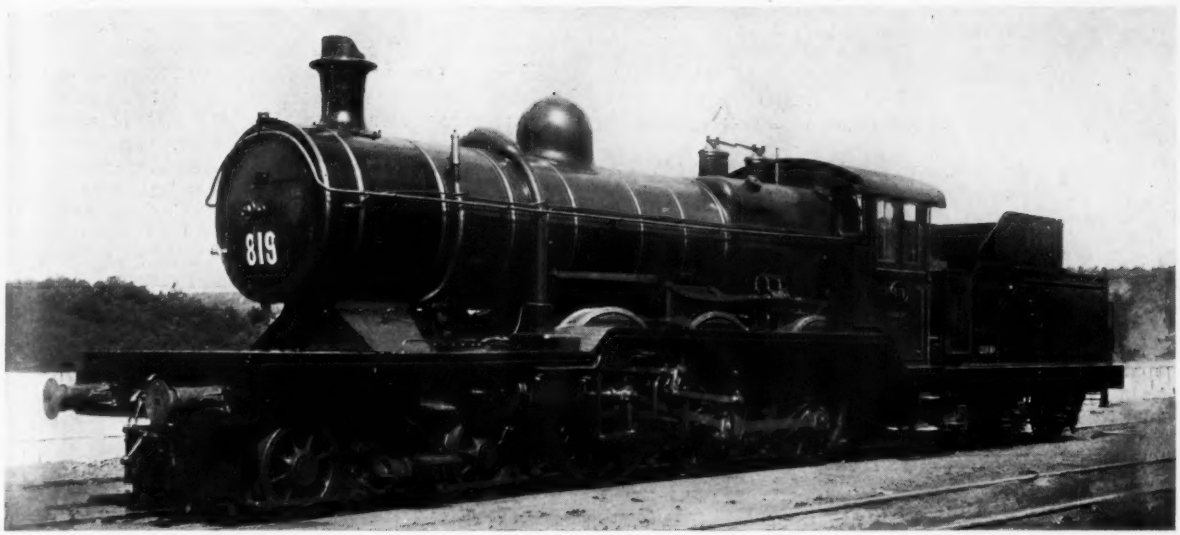
As from September 1, 1926, the Belgian State transferred the right to work its railway system to the Société Nationale des Chemins de Fer Belges (Belgian National Railways Company) for a period of seventy-five years. At the present time the whole railway system belongs to the Belgian State with the exception of the lines owned by the Nord Belge, the Malines-Terneuzen Railway Company, and the Chimay Railway Company. The length of standard gauge lines in Belgium totals 5,061 km., of which 4,841 km. belong to the State and 275 km. to private companies.

Locomotives

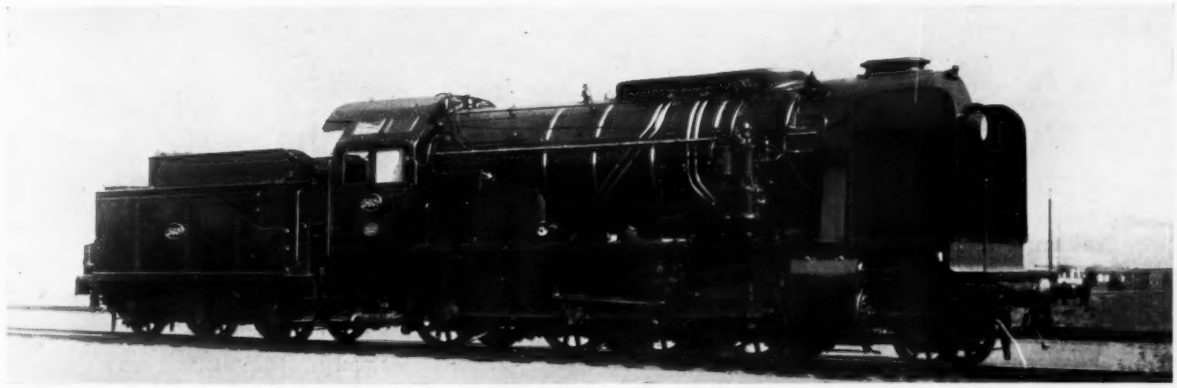
Great Britain supplied the first locomotives in Belgium, those used to haul the inaugural trains from Brussels to Malines on May 5, 1835, to which reference has already been made. They were the product of Robert Stephenson & Company, and were immediately followed by two more built in England, *Le Rapide* and *L'Eclair*. In the same year the first engine of Belgian construction, *Le Belge*, left the Cockerill workshops. Since then in the field of locomotive engineering, Belgium has always been a pioneer.

The first bogie locomotives on the Continent of Europe were built at Liége about 1860 by the Saint-Léonard Company for service in Spain. The Belgian engineer Walschaert in 1844 invented the valve gear which bears his name and which is in wide use throughout the world. The name of Belpaire, a Manager of the Belgian State Railways, will always be associated with the development of the firebox. His studies of the use of fine coal, instead of coal or bricquettes, led to the general adoption of the former type of fuel. Belpaire also invented the well-known flat crown firebox, the use of which became universal on many of the great railway systems of the world. Another well known name in the locomotive world is that of Flamme of the Mechanical Engineer's Department of the Belgian State Railways, a pioneer in the use of the superheater and a protagonist of simple expansion in preference to compounding.

Belgian locomotives for long bore a strong characteristic external appearance towards which the large square chimneys on many of the older types contributed materially. Standard four-cylinder 4-6-0 locomotives have borne the brunt of the heaviest traffic since before the war, but more recently were supplemented by Flamme Pacifics, which, with their double chimneys and foreshortened taper boilers, present a striking appearance. The distinction of being the heaviest express locomotives in Europe belongs to the Belgian 2-8-2's specially built in 1930 for the Luxemburg line, which scale 128 tons exclusive of the tender. The latest Pacific type express locomotives of which we



4-6-0 *four-cylinder compound passenger locomotive, Belgian National Railways*



Consolidation (2-8-0) *type goods engine for heavily graded lines*

The heaviest passenger engine in Europe, 2-8-2 *two-cylinder locomotive No.* 503

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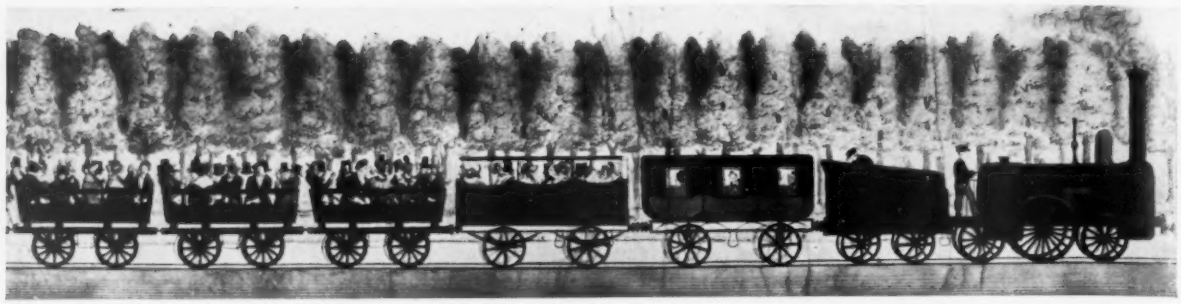


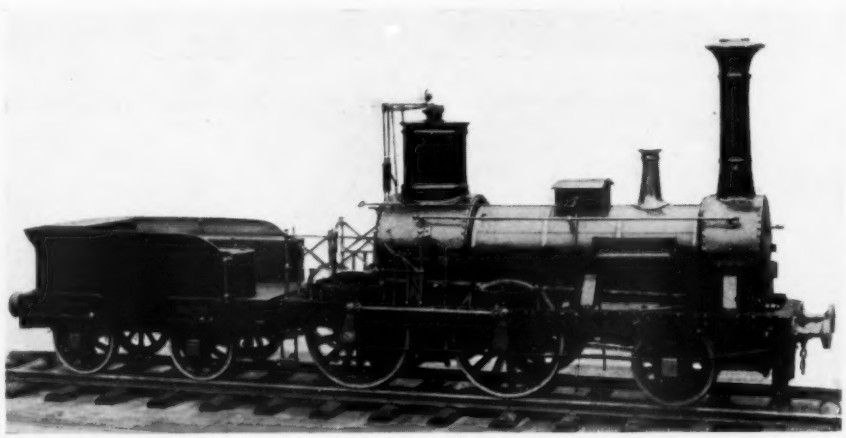
One of the first trains on the Brussels-Malines line, which was inaugurated on May 5, 1835

gave an illustration in our issue of April 5, and which bear a striking resemblance to Mr. Gresley's 2-8-2 express locomotive *Cock o' the North*, are again outstanding in appearance from the normal Continental locomotive. The Belgian National Railways possess a large variety of locomotive types, an inheritance of the war, when, to replace the locomotives destroyed, many modern engines of various types were handed over as reparations by Germany.

Electric Traction

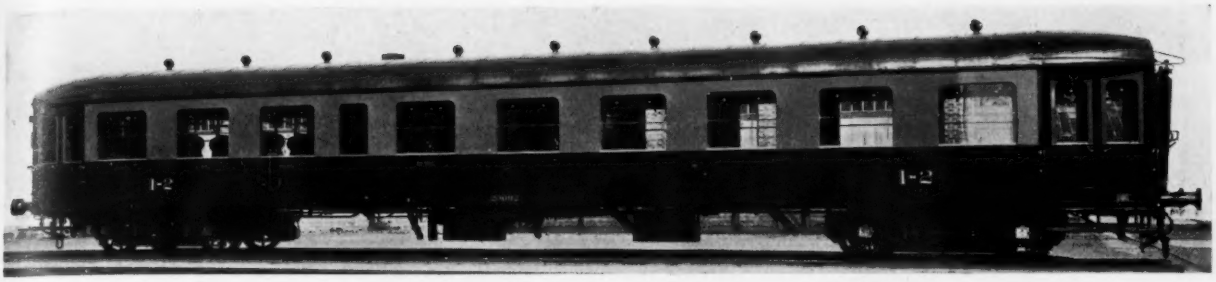
Despite the country's dense network of railways, Belgian lines have relied on steam traction up to within a few days of their centenary, with but one exception. That is the suburban branch line from Brussels (Quartier Léopold) to Tervueren, a distance of about 9 route miles. In 1929 a private company saw possibilities in this line and obtained a concession for its electrification and working. Electric traction was inaugurated on December 1, 1931, and since that date an appreciable suburban traffic has been built up, in addition to holiday traffic.

The initial venture of the Belgian National Railways Company itself in electric traction is that between Brussels and Antwerp which this week has been brought into public service. The work is one of the most important electrification projects on the Continent in recent times as, in addition to electrical equipment, the lines used are largely new construction closely paralleling the steam line between Brussels (Nord) and Antwerp (Central), a distance of 27½ miles. The electrification, which is at 3,000 volts

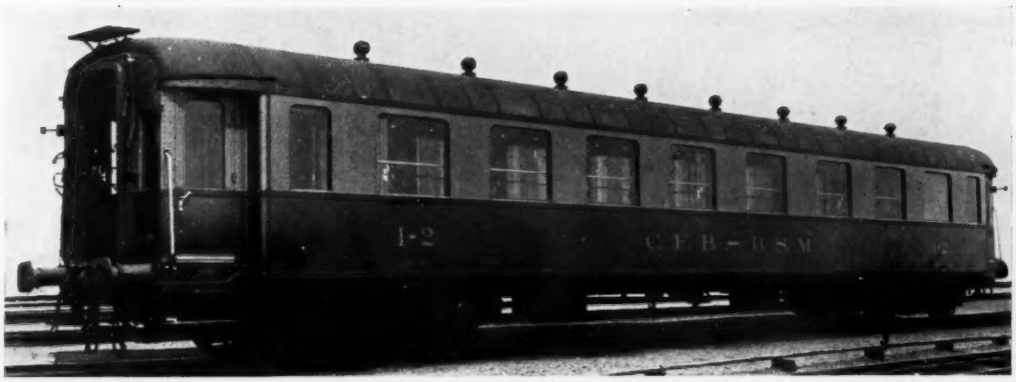


Model of the locomotive "L'Elephant" of 1835

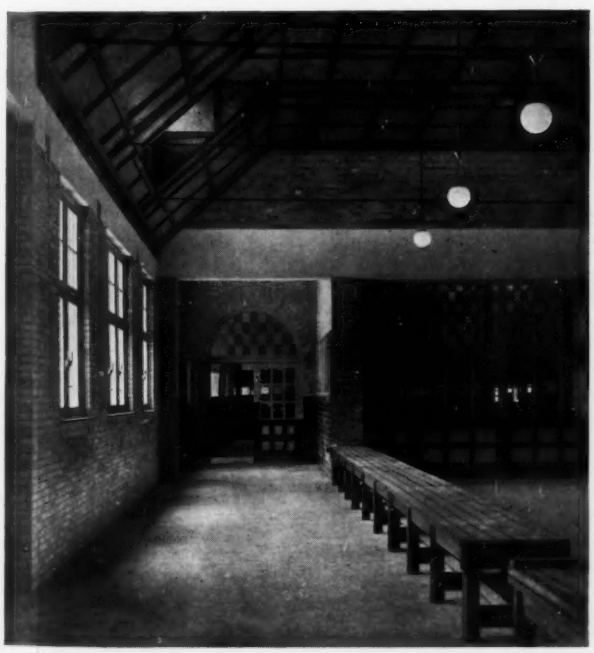
Four-car 3,000-volt d.c. electric train as used on the newly electrified railway between Brussels and Antwerp on the Belgian National Railways system



New all-steel rolling stock is fast replacing the old wooden stock. One of the new first and second class composite coaches for internal express trains. Note the large double doors to the end vestibules



First and second class all-steel composite coach of the side-corridor type as used for international services



The spacious luggage hall at Knocke-sur-Mer, a popular holiday resort

Reinforced end vestibule with double doors, on rolling stock for internal services

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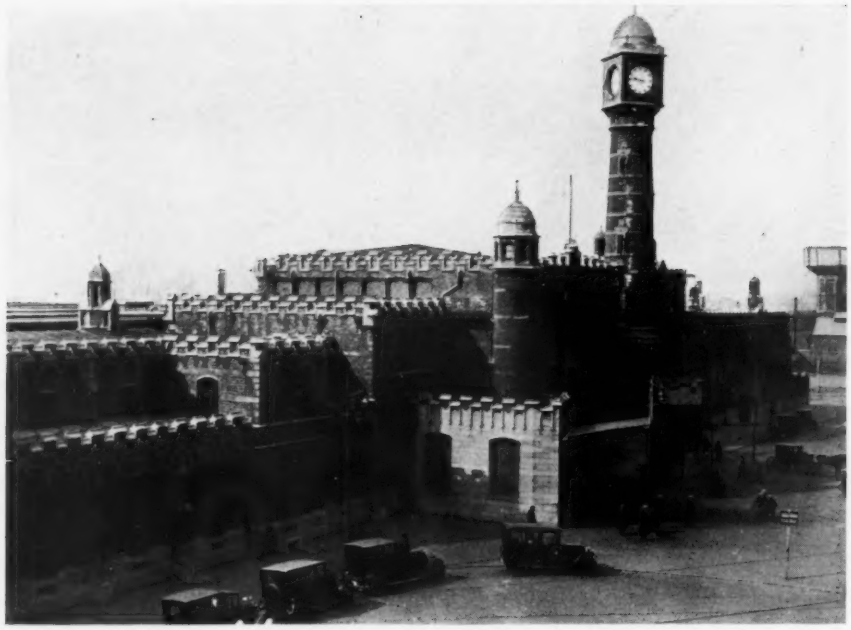

Belgian station architecture exhibits a surprising variety of style and inspiration. Above is Ghent St. Pierre, where a clever experiment in orientalism has produced a striking effect

The dignified mass of the harbour station at Ostend forms a fitting gateway to the country for visitors from abroad

The graceful exterior of Verviers Central is the product of a restrained design and the delicate handling of ornament

There is an ecclesiastical note in the dome and pinnacles of the Central station at Antwerp which echoes the magnificence of the cathedrals and churches of the city

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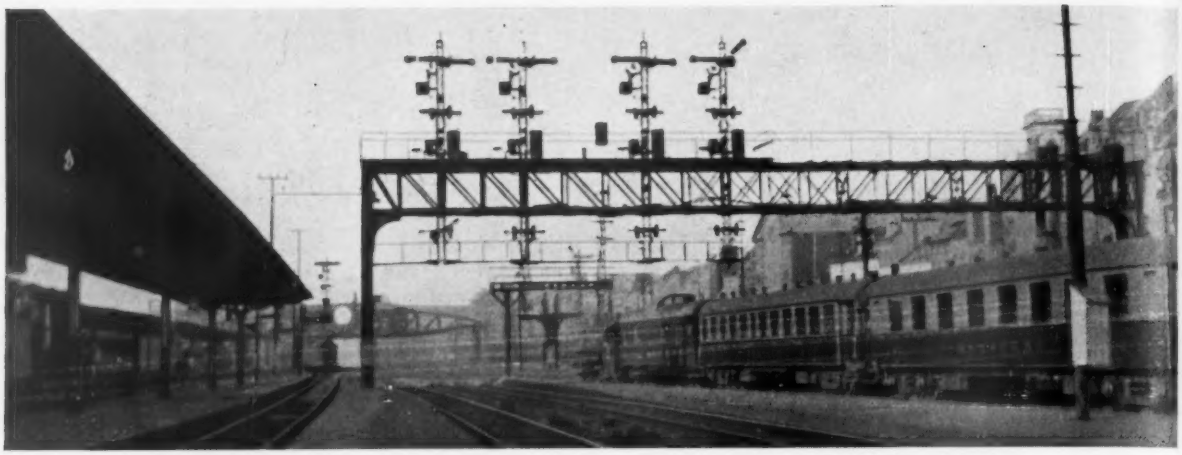


Old Siemens and Halske power signals at Brussels Nord station. On the right of the picture is a train of all-steel coaches

d.c., and new rolling stock were described and illustrated in our *Electric Railway Traction Supplement* of April 5 last.

Signalling

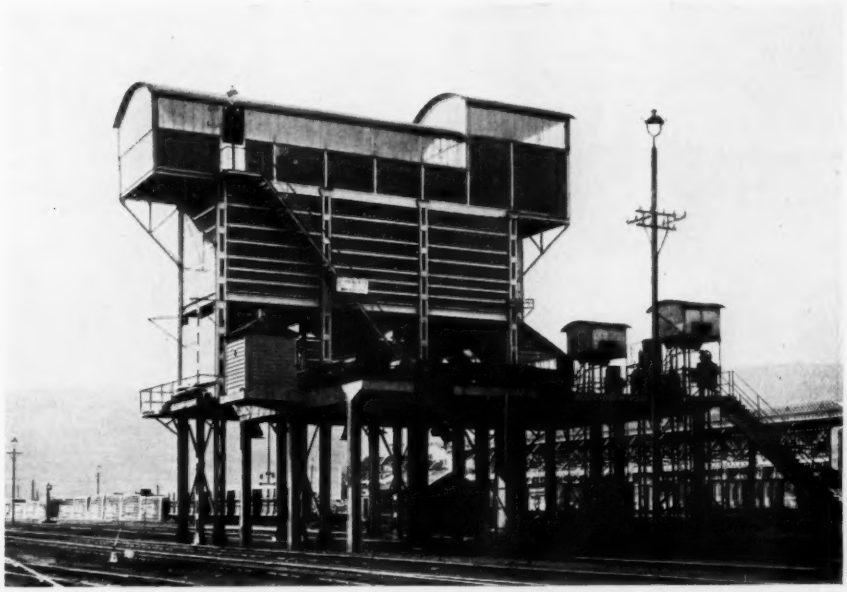
The signalling on the Belgian lines has been of the most efficient type for many years, particularly on the main international routes. At first British practice was largely followed, the Saxby and Farmer apparatus being adopted, but in the course of time certain German methods found favour and were combined with English ideas to form a distinctive system possessing considerable merit. The double-wire system of working, with upper quadrant signals, but using the English bracket signal at junctions, was made standard for the main routes some years before the war and was supplemented by electric fog repeaters on the Brussels-Antwerp line in 1908, the first installation of such a method of signalling, as far as we are aware. At the same time the power operation of distant signals was made general on that route. The yellow arm and light were adopted for those signals about the same time, and the use of lock-and-block on the Siemens and Halske system, worked on the normally blocked principle, was generally applied where the traffic was at all heavy. These arrangements made the Belgian lines rank among the best-signalled of any on the Continent and were carried out by the then Signal Superintendent, the late L. Weissenbruch, Secretary of the International Railway Congress Association, under whose direction also electric power signalling was installed at Antwerp Central in 1904 and subsequently at most of the principal stations, including Brussels Nord, where a large signal-box, very advanced for the time, was opened thirty years ago and has only just been superseded.

Probably the most interesting feature of Belgian

New electric power signal box installed at the Nord station, Brussels, by the Ateliers de Constructions Electriques de Charleroi

Latest mechanically-operated three-position semaphores

Flower-beds and lawns form an unconventional but attractive foreground to the marshalling yard at Antwerp Nord. Note the loud speakers for transmitting orders to shunters



View of a large locomotive coaling plant

Coal screening installation for locomotive fuel at Schaerbeek

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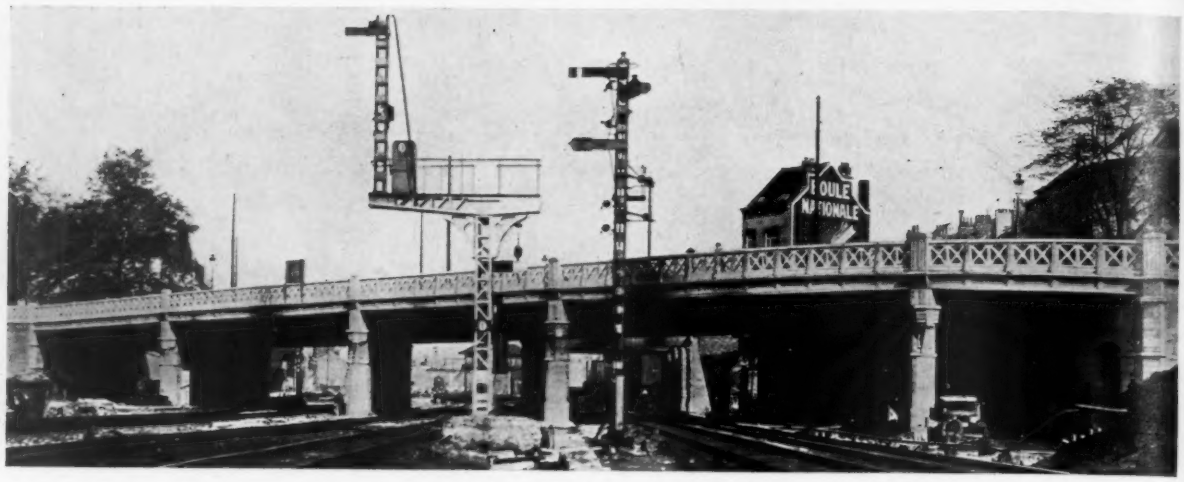
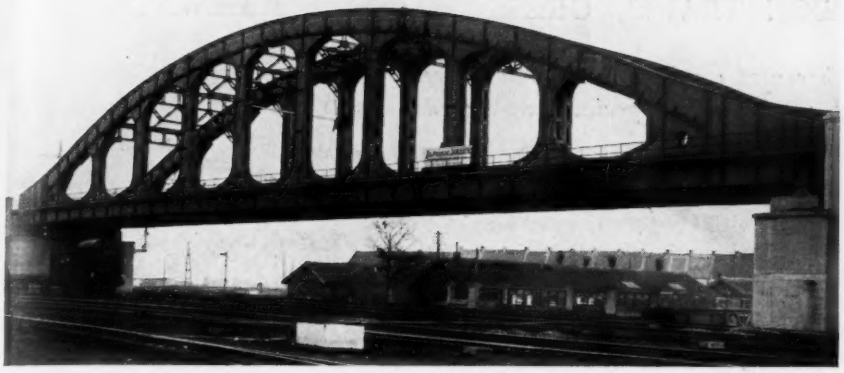


A pleasant design of bridgework adds to the appearance of the Belgian railways. Above is the bridge carrying the Avenue de la Reine across the approach to Brussels Nord

Flying junction at Schaerbeek

A handsome single span across the Luxembourg line of the Belgian National Railways



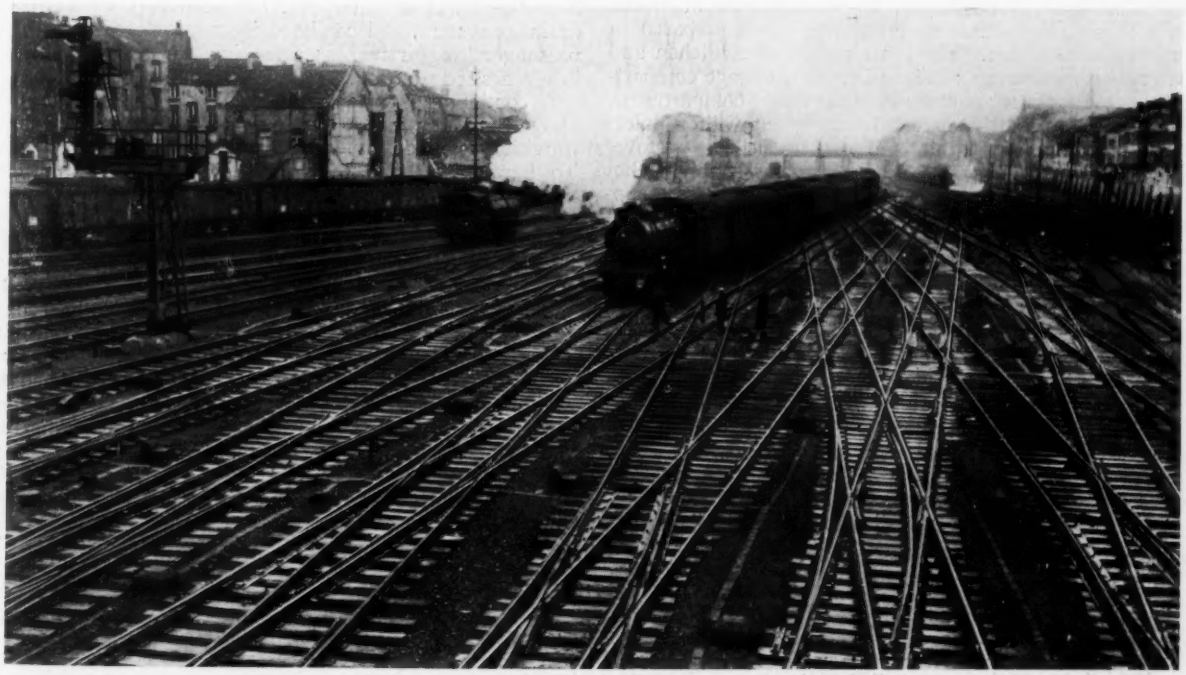
Steel bridge carrying the electric over the steam lines to the north of Malines station, Belgian National Railways

signalling is the adoption of the three-position signal since the war, not only on account of the code used, in which home and distant type arms are retained, each operating to three positions and enabling four indications to be given, but also because mechanical working has been used in conjunction with ingenious slotting apparatus. First used between Brussels and Antwerp in November, 1919, this system has been extended to cover the main express lines. It has resulted in a considerable simplification of the signal aspects, which has found great favour with the drivers, and it enabled the signalling to be re-established after the war with the minimum of expense. It also was due to the initiative of M. Weissenbruch.

Power signalling has been developed and extended, several of the old plants, including that at Brussels Nord, having been replaced by new ones on the A.C.E.C. system. Train dispatching, with selective telephone apparatus, has been installed on the chief routes, and colour light signals between Namur and Charleroi, and between Brussels and Antwerp on the electric lines. It is therefore evident that the fullest attention to safety of working is being given by the management.

Permanent Way

The fish-bellied type of rail first used in Belgium was followed by the double-headed rail, and, in 1860, the flat-bottomed, or Vignoles, type was adopted. The earliest rails weighed 17·5 kg. per m. (35 lb. per yd.), whereas the present standard rail is of 50 kg. per m., or 100 lb. per yd. in 18-metre lengths. Creosoted sleepers prevail, and, where they are of hardwood, soleplates are dispensed with, except in curves of less than 500 metres radius. The rails are laid with a cant of 1 in 20, and the joints, until quite recently, were staggered. An ample depth of broken stone ballast is laid on all the main lines, and the general standard of permanent way maintenance has of recent years been brought to a high level. On the principal main lines the maximum permissible speed is 120 km.p.h. (75 m.p.h.) In all recent construction the crossing of one line by another has been avoided by means of flying junctions. The use of reinforced concrete for overbridges has become prevalent.



In connection with alterations to the lines at Brussels Nord, Belgian National Railways, to accommodate the trains on the new electrified lines between there and Antwerp, electric signalling has been installed. Above is a view of the approach to Brussels Nord station, showing power-operated points

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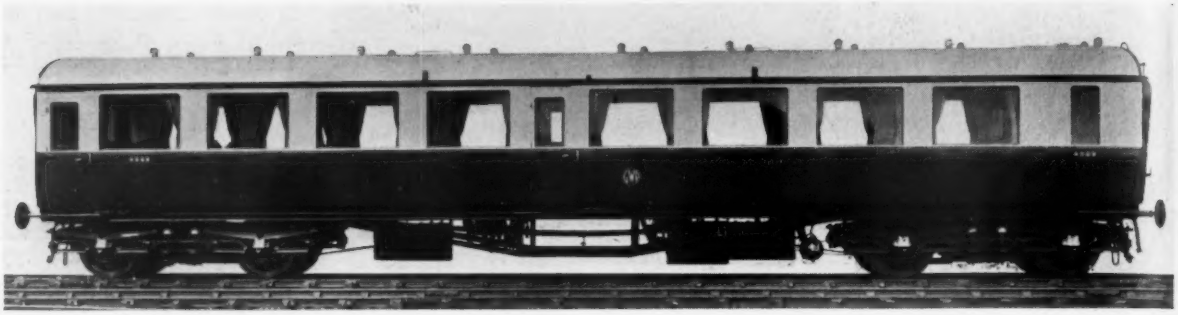
NEW EXCURSION TRAINS, GREAT WESTERN RAILWAY

Two ten-coach centre corridor trains have recently been completed at the Swindon works for special long-distance excursion traffic



THE new G.W.R. excursion trains, although generally similar in design and assembly, differ from one another in their seating capacity; that exhibited at Paddington station on Monday, April 15, was made up as follows:—

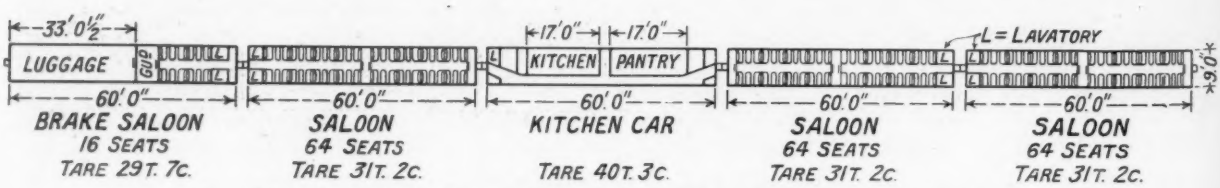
	Seats
Brake saloon	16
Saloons	64
Kitchen car—four saloons	256
Kitchen car—saloon	64
Brake saloon	16

The coaches are each 60 ft. long and 9 ft. wide, and the total length of the train is 635 ft. 5 in. Seating accommodation for 416 passengers is provided, all of whom may be supplied where they sit with meals prepared in the two kitchen cars. The latter consist of a kitchen and pantry with a serving vestibule between, storage compartments, refrigerator cupboards and toilet compartment. The kitchen, which is panelled throughout with stainless steel, is equipped with a mottled grey enamelled gas stove, plate warmer, and hot water circulator for supplying hot water to the pantry and kitchen sinks, which were supplied by Fletcher, Russell & Co. Ltd., of Warrington. The refrigerator cupboards are cooled by a Frigidaire electrically operated refrigerating plant contained in one of the storage compartments. The pantry contains ample accommodation for the storage of china, cutlery, and other utensils, in addition to wine cupboards, sinks and serving table.

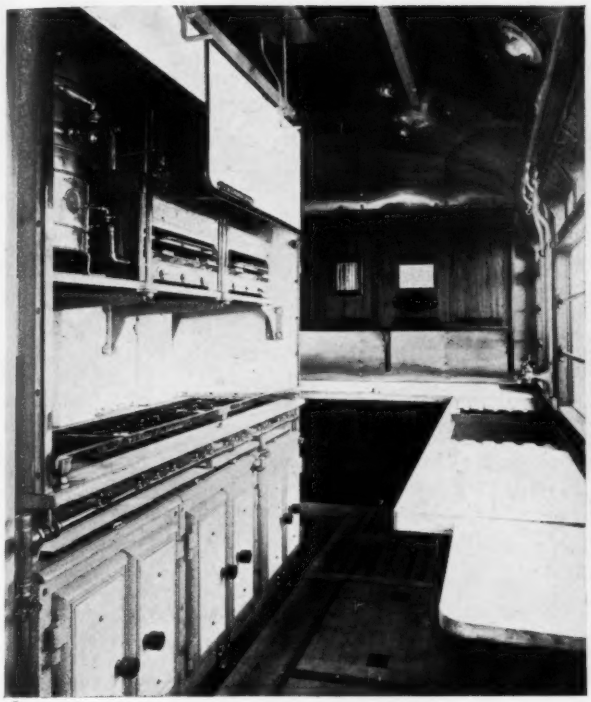
The coaches comprise two large saloons, with two toilet compartments situated at one end of the coach, a centre vestibule and an end vestibule. Each saloon is divided into two smaller compartments by a partition with an open gangway in the centre.

The saloons are decorated with polished birchwood panels of natural colour, bordered and inlaid with mahogany, while the ceiling is finished with flat stippled vellum paint. The seats, which are of modern design, with movable arm rests at the ends to facilitate ingress and egress, are upholstered in orange-brown figured moquette, and are arranged in groups of four to each table on each side of the centre corridor. The tables are of dark mahogany with the tops inlaid with green composition; the whole is finished with a non-stain surface. The sliding doors are flush finished, with one full-length birchwood panel having dark mahogany borders and stepped corners to match the side panels. The large windows provided above each table are furnished with brown and gold rayon curtains, held in position by silk cords, and afford an uninterrupted view. They are of the latest Beclawat weatherproof balanced type with patent drainage system, and can be easily manipulated to suit the passengers' requirements; a locking device secures them in the desired position.

A continuous luggage rack for light articles is located above the side windows on each side of the saloon, while provision is made for large bags, &c., under the seats. To harmonise with the general colour scheme, all the metal fittings are copper oxidised. Electric fans are provided in each saloon and an electric bell-push is fitted to each table for summoning the attendant. The floor is covered with brown and beige patterned linoleum, and a dark brown carpet, with black edges and the G.W.R. monogram in the same colour, is laid along the centre gangway. Large cube pattern electric light fittings in white with brown and green pattern are arranged on the ceiling, and small fittings of similar design, attached to the saloon side over the seats, provide adequate lighting. The heating is supplied by steam pipes running the full length of the saloon on each side, protected by copper oxidised grilles. The temperature can be regulated to suit the passengers' requirements by controls situated at the ends of each saloon.



Formation of half new ten-coach excursion train, showing seating arrangement and tare weights



Interior of kitchen

Interior of saloon

The vestibules are finished with full length panels having borders to match the saloons. The toilet compartments are painted in cream panels above the waistline and grained mahogany below, and are fitted with the usual toilet requisites. The windows are glazed with Arctic glass and are of the balanced type.

The brake coaches consist of one small saloon with similar interior decorations, toilet compartments, and end vestibule, together with a compartment for the guard and a large luggage van. The bodies are constructed with fireproof floors, and outside panels and roof of steel. They are fitted with suspension type gangways and are carried on steel underframes mounted on 9-ft. pressed steel bogies.

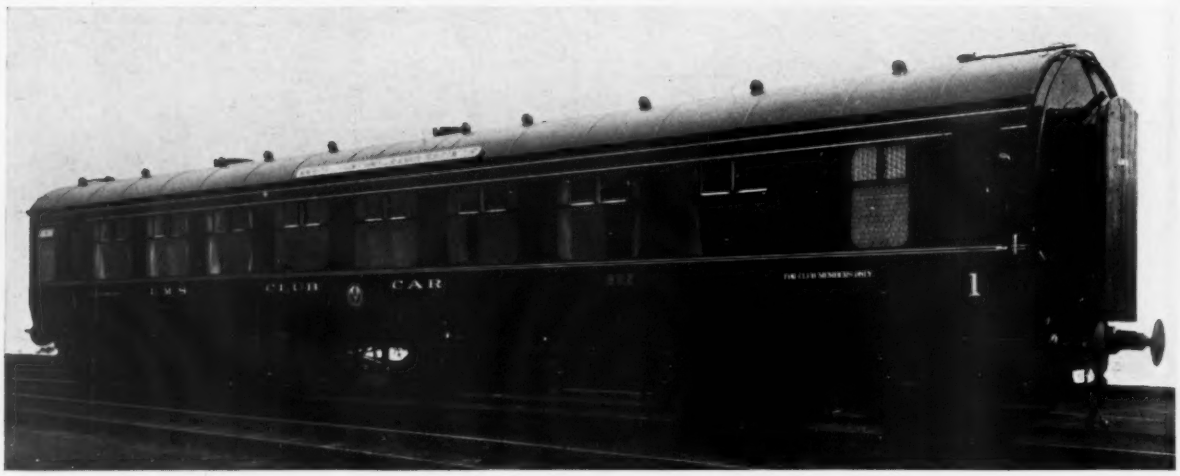
The second train is somewhat differently constituted and provides seating accommodation for 384 passengers. Both the new trains will be brought into use for the first time to convey parties from the Birmingham area in connection with the F.A. Cup Final on Saturday, April 27.

The first three of the order placed by the L.M.S.R. with Sir W. G. Armstrong Whitworth & Co. (Engineers) Ltd., for 100 new 4-6-0 mixed traffic locomotives, ready for despatch from Scotswood Works, Newcastle

XUM

NEW FIRST CLASS CLUB CAR, L.M.S.R.

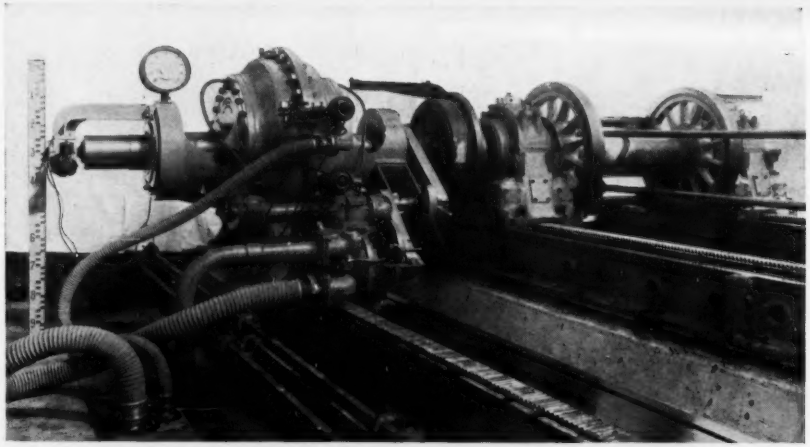
A vehicle specially built at Derby for the exclusive use between Manchester and Blackpool of members of a travelling club. A kitchenette is provided for the service of refreshments



FOR the use of members of the Manchester-Blackpool Travelling Club between Blackpool, Lytham St. Annes, and Manchester, a new first class club car has recently been built at Derby and placed in service. Its construction accords generally with standard practice, comprising a steel underframe mounted on standard bogies and carrying a timber framed body with exterior steel panelling to the sides, end, and roof. The illustrations reproduced give an idea of the comfort and convenience provided by the internal arrangements. The seating is of the movable armchair type, and there is a kitchenette from which refreshments can be served. An inaugural ceremony was performed recently by Mr. Ashton Davies, Chief Commercial Manager of the L.M.S.R., when members of the Club expressed high appreciation of the service given them by the L.M.S.R.

Two interior views of the new L.M.S.R. club car

General view of plant



Froude brake and rollers

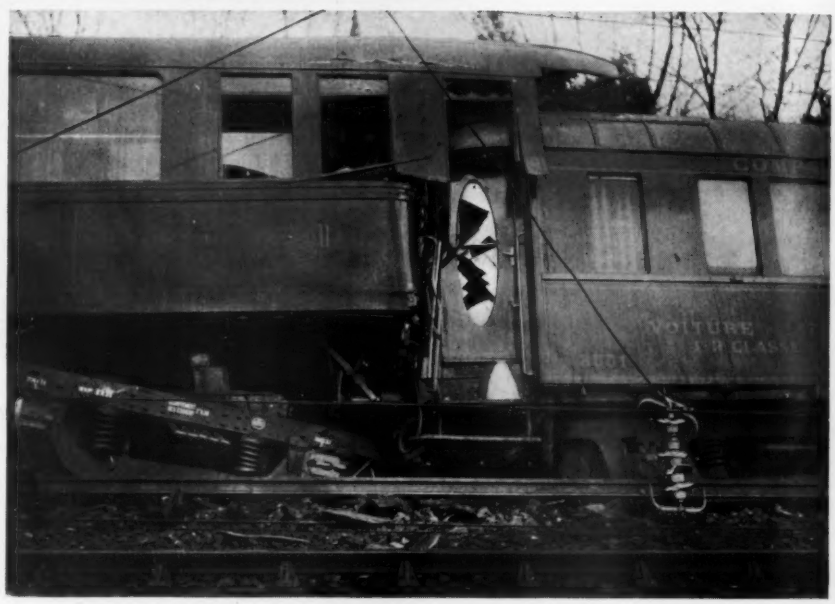
Dynametric recording table and locomotive under test

THE FRENCH LOCOMOTIVE TESTING PLANT AT VITRY

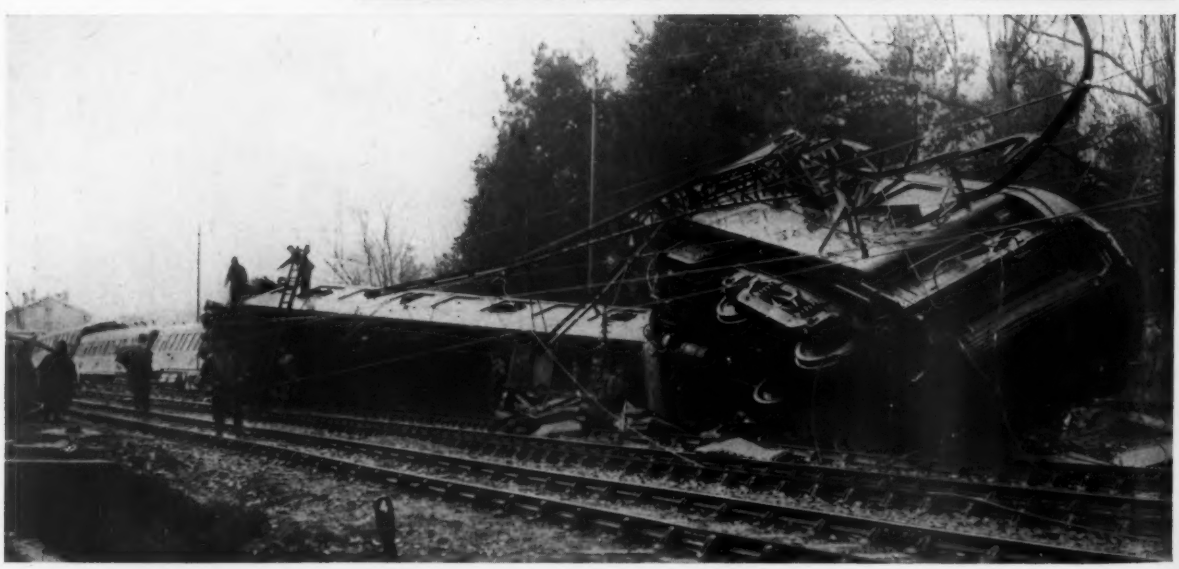
(See editorial note on page 767 and news article on page 797)

Left: Steel coach bent by collision with concrete base of high tension electric supply standard. The line is electrified

Below: Steel sleeping car telescoped into coach with steel-panelled wooden body



The Pyrenees–Cote d'Argent express was derailed at Marcheprime, about 17 miles south of Bordeaux, on April 14; four persons lost their lives and 10 were injured. The fourth coach collided with the concrete base of a high-tension supply standard, and it was in this vehicle that the casualties occurred. To the fact that most of the coaches were of all-steel construction is attributed the comparative immunity of the rest of the passengers. The train was travelling at between 60 and 70 m.p.h. The accident is stated to have been caused by the breaking of a tyre on one of the coaches



General view of derailment near Bordeaux, Paris Orleans-Midi Railway

RAILWAY NEWS SECTION

PERSONAL

From the *London Gazette* of April 16:—The King has been pleased to give and grant unto Walter Dingle Knight, Esq., His Majesty's Royal licence and authority to wear the Insignia of Commander of the Order of Ismail, which decoration has been conferred upon him by H.M. the King of Egypt, in recognition of valuable services rendered by him in the capacity of Chief Mechanical Engineer of the Egyptian State Railways.

Mr. Knight's retirement was recorded in THE RAILWAY GAZETTE of April 13, 1934, and his portrait and biography appeared in the issue of July 28, 1933.

From the *London Gazette* of April 19:—Under authority of Warrants under His Majesty's Royal Sign Manual, the Governor General of India, on March 1, at an Investiture held at New Delhi, conferred the honour of Knighthood upon Mr. James Williamson, Agent of the Bengal & North Western and Rohilkund & Kumaon Railways [who proceeded on leave preparatory to retirement on March 28. ED. *R.G.*]

Mr. R. G. MacIver, M.I.Mech.E., M.I.Loco.E., will join A. G. Wild & Co. Ltd. of Sheffield, engineers and manufacturers of railway supplies, in the near future, as technical representative in London, at No. 19, Old Queen Street, Westminster, S.W.

It is with regret that we learn of the death, on April 15, of Mr. A. L. Lawley, the railway pioneer responsible for building the earliest railways in Rhodesia. Born in 1861, he went out to the African goldfields in 1881 and started a business as a builder and contractor. In 1892 he tendered for the construction of the first 75 miles of the Beira Railway and the port, and, though the contract went to George Pauling, Lawley was taken on by him—with a share in the profits—as resident on the work. This he supervised until the line was completed to Salisbury and was then engaged for many years in the building of other railways, including the Victoria Falls-Broken Hill, the Zambesi-Port Herald and Zambesi-Beira railways. Later, in conjunction with Mr. W. S. Royce, he also constructed the Germiston (Rand) to Pretoria line. He lived for many years, and until recently, at Beira, the port made by the railway he had first built.

We regret to record the death, on April 21, of Mr. Percy Howard Price, O.B.E., M.Inst.T., Secretary to the Railway Clearing House. Mr. Price entered the service of the Clearing House in 1889, and was appointed to the Merchandise Department; shortly thereafter he was transferred to the Secretarial Department, of which he became head in 1916. He succeeded to the secretaryships of the Birmingham, South Staffordshire and East Worcestershire, Normanton and West Riding Conferences, which posts he held for a number of years until he eventually became Secretary of the Clearing House in December, 1919, which position he held until his death. As the result of his 46 years' service with the Railway Clearing House and his experience of all the changes which had taken place during that time—and particularly in post-war years—his counsel was valued by a large circle of railway officials. He was also well known to the various associations of traders who had found the Clearing House a convenient venue for discussing matters of mutual interest between themselves and the railway companies. Mr. Price will be greatly missed, both by the railway companies and the traders, but not least by his own personal staff, who found in him a chief with whom it was a pleasure to serve. (We also refer in an editorial note on page 765 to Mr. Price's sudden death.)

The late Mr. P. H. Price, O.B.E.,

Secretary to the Railway Clearing House, 1919–35

Captain E. E. Tedford, General Superintendent, has been promoted Acting General Manager, Canadian National Steamships, and Mr. N. J. Thompson has been appointed Commissioner of Industries, Montreal, for the C.N.R.

Mr. C. H. B. Price has been appointed to manage the Publicity Department of Tecalemit Limited, lubricating engineers, of Brentford, Middlesex. Mr. Price was previously in charge of the advertising of the Skefko Ball Bearing Co., Ltd., Luton.

INDIAN RAILWAY STAFF CHANGES

Mr. F. R. Morgan has been appointed to officiate as Chief Engineer, E.B.R., as from March 2.

Mr. R. W. Whitworth has been appointed to officiate as Signal Engineer, E.B.R., as from February 28.

Mr. G. G. T. Toller, V.D., O.B.E., has been appointed to officiate as Deputy Chief Engineer, Burma Railways, as from March 6.

Mr. R. H. Mackie, Locomotive Superintendent, Burma Railways, has been granted twenty months' leave preparatory to retirement as from March 21.

Mr. E. L. Manley has been appointed to act as Agent of the E.B.R., in place of Mr. A. F. Harvey, Officiating Agent, during his absence on leave.

Mr. L. H. Kirkness, D.S.O., O.B.E., V.D., Secretary to the Railway Board, has been granted seven months' leave as from March 23. Mr. B. Moody, V.D., of the N.W.R., has been appointed to officiate as Secretary in his place and as from the same date.

Rai Bahadur P. L. Dhawan, who, as announced in *The Times* of April 16, has been appointed a member of the Indian Public Services Commission, is Deputy if not by now officiating Chief Engineer, North Western Railway, India.

Mr. F. H. D. Page, who, as announced in THE RAILWAY GAZETTE of April 5, has been appointed Assistant Signal Engineer, Reading, G.W.R., was educated at the Royal Grammar School, Worcester, and was afterwards a pupil

with McKenzie & Holland, railway signal and interlocking engineers. In 1903 he joined the Taff Vale Railway and three years later entered the Signal Engineer's Office, G.W.R., as a draughtsman: he became Interlocking Surveyor in 1912 and Assistant in 1923. To facilitate control of the signal and telegraph work, particularly in connection with the absorption of the Welsh railways, Mr. Page was appointed Divisional Signal Engineer, Cardiff, in 1925, and three years later was transferred to Reading as Assistant to the Signal Engineer, the post he now vacates to become Assistant Signal Engineer. He was responsible, under Mr. Jacobs, for the power signalling installation recently carried out at Cardiff. Mr. Page is a Member of Council of the Institution of Railway Signal Engineers.

Mr. F. H. D. Page,

Appointed Assistant Signal Engineer, Great Western Railway

INSTITUTION OF CIVIL ENGINEERS

At the ordinary meeting on April 2, the following elections of associate members were *inter alia* reported:—

Mr. A. E. Blyth, Dock Engineer's Office, Southampton, Southern Railway.

Mr. C. M. Field, of the G.W.R., Bristol.

Mr. F. J. De Souza, B.Sc. (Glasgow), Divisional Office, Karachi, N.W.R., India, and

Mr. H. S. Thackray, B.A. (Cantab), recently of the Southern Railway and now on railway work at Devonport Dockyard.

M. Alexandre Duruz, Manager of the Swiss Federal Railways' Agency and Travel Bureau in London, is retiring on May 1, and is being succeeded by M. Victor P. Ceresole.

M. Duruz, who was born in 1875, entered the service of the Jura-Simplon Railway in 1897, as Manager of its London office. In 1903, when that railway was purchased by the State and the London office was taken over by the Swiss Federal Railways, he remained as Manager on behalf of the Federal administration. M. Duruz has also taken an active part in various international railway conferences held in this country, including the Simplon-Orient Express Conference in 1931. A brief editorial upon the agency and the part played in it by M. Duruz will be found on page 767.

M. Victor P. Ceresole, who is 40 years of age and is of Swiss nationality, was trained as a mechanical engineer. He has, however, had a wide experience in the general export trade in this country, on the Continent of Europe and overseas. The last 12 years were spent by him with the Nestlé Company (Nestlé's milk), of which he was for eight years Advertising Manager at the head office in Switzerland.

M. Alexandre Duruz,

Manager, Swiss Federal Railways Agency and Travel Bureau in London, 1903-35

M. Victor P. Ceresole,

Appointed Manager, Swiss Federal Railways' Agency and Travel Bureau in London

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It is with regret that we record the death on April 17, at Malton, of Mr. John Bradford Harper, who retired in Dec., 1922, from the position of Assistant General Superintendent of the former North Eastern Railway Company. He began as a clerk at Malton in the Goods Department, and after service at Hull, Richmond, Darlington and York, was made District Inspector at York, becoming Stationmaster there in 1890, and later District Superintendent at Darlington. On the reorganisation in 1902, Mr. Harper was appointed Divisional Superintendent for the Southern Division, and in 1911 received the title of Assistant General Superintendent, which gave him supervision of the whole line under Major H. A. Watson, the then General Superintendent. During the war Mr. Harper was Chairman of the "Central Control" when all railway movements on the system were related to the central control at York, on which the War Office was represented. Mr. Harper's services in this capacity were recognised by the Government.

The funeral took place at St. Peter's Church, Norton, Malton, on April 20, and was attended by a large number of present and past officers of the former North Eastern Railway and of the London & North Eastern Railway. Those present included, amongst many others:—

Messrs. C. M. Jenkin-Jones (also representing Sir Ralph L. Wedgwood, Chief General Manager, and Mr. R. Bell, Assistant General Manager); F. H. Graveson, representing Mr. Thomas Hornsby; G. Sowerby; T. B. Hare; K. P. Walker; A. C. Stamer (also representing Sir A. Kaye Butterworth); E. V. Taylor; A. Tulip; J. T. Naisby; T. H. Royle; and Major H. A. Watson.

DRAINING CLAY FORMATIONS.—In the issue of *The Railway Engineer* for March, 1934, appeared an article entitled "Remaking and Blanketing Clay Formations under Main Lines in Service," by M. Giral, of the Alsace-Lorraine Railways. This article was compiled from one in our French contemporary, the *Revue Générale des Chemins de Fer*, for November, 1933, as was duly acknowledged. Our article has since been reproduced in the *Bulletin* of the International Railway Congress Association without this acknowledgment, and we have therefore pleasure in acknowledging once more our original indebtedness to our French contemporary, the *Revue Générale des Chemins de Fer*.

RIO TINTO CO. LTD.—The Rio Tinto Co. Ltd. invites holders of share warwants to bearer to present Coupon No. 76 for the dividend of 2s. 6d. a share on the preference shares, less income tax, to be paid on May 7.

Locomotive Testing Plants

Discussion following a paper on the Vitry installation read by M. Pierre Place, Chief Engineer, O.C.E.M., to the Institution of Locomotive Engineers

On April 17, M. Pierre Place, Chief Engineer of the O.C.E.M., read a paper on locomotive testing plants, with special reference to that at Vitry,* before a large and representative gathering of the Institution of Locomotive Engineers. Mr. H. N. Gresley, President of the institution, was in the chair. Some of the salient features of the paper are discussed in an editorial note on p. 767 of this issue.

In the course of his talk, M. Place showed a cinematograph film in which the whole process of testing a locomotive on the Vitry bench was most clearly demonstrated, both by excellent and striking photographic views and by animated diagrams with each step and piece of apparatus pointed out by moving arrows.

A vote of thanks to M. Place was moved by Mr. H. N. Gresley, who remarked that an indication of how much the Vitry plant was appreciated in France was afforded by the fact that when he asked last January to what extent the station was booked up he was told that it would be occupied every day until the end of September. It took nearly a month to carry out a complete set of tests on an engine. He had been much impressed by the closeness of the results obtained when the same locomotive was tested on different occasions. This gave the assurance that when it was desired to assess the value of new fittings, any variations shown at Vitry would actually be due to such modifications and not, as frequently occurred in road tests, to weather, wind, and other variables.

Mr. C. Elphinston said he had seen several testing plants, but Vitry was undoubtedly the best in existence. The precision of the Amsler speed recording instrument had struck him very much. He considered it would be a good thing to have two testing plants, one of them manned by keen young men with instructions to build up a locomotive from scientific principles. It was to be hoped that if a testing station was built in this country, a large amount of time would be devoted to research.

Mr. W. A. Stanier spoke briefly, and in expressing his gratitude at having been able to inspect the Vitry station, said that what impressed him most was the simple but ingenious way in which the accuracy of setting the engine wheels on the rollers was assured.

Mr. S. H. H. Borrett asked whether, supposing a testing station was built in this country, it would be able to accommodate both narrow and very wide gauge engines. It would be very necessary for a plant in this country to be applicable to all gauges.

Mr. J. G. B. Sams asked if the Vitry plant measured vertical forces on the rails, such as hammer blows.

Mr. H. Chambers referred to the knock which develops in locomotive axleboxes under service and enquired whether the 1 mm. limit of accuracy in centring the locomotive wheels over the rollers at Vitry was sufficient to allow for such play. He thought it would be valuable to ascertain the loss of efficiency due to this factor. He further asked whether the data obtainable at a test bench might not make it possible to reduce the expression "coal per drawbar horsepower hour" to one showing power per so many B.T.U.'s.

Sir Clement Hindley thought it somewhat surprising that a country which had produced the steam engine, and had lived on coal and steam, had to get its information about testing plant from its neighbours in France. He hoped the results obtained at Vitry would be given the widest publicity possible so that the railway companies might learn what scientific advances could be made by the testing of locomotives. If such a plant had been in existence in this country in the past, he thought, engine-builders might not have suffered so severely from foreign competition. The provision of testing apparatus would be an important factor in export trade in the future.

Mr. H. I. Andrew was impressed by the statement that a locomotive could be installed on the plant at Vitry in half a day. He had had experience at Illinois, where the same operation occupied the best part of a week and accounted for a considerable proportion of the cost of the test.

Sir Hugh Reid prefaced his comments by remarking on the excellence of the film M. Place had shown, which he, as an amateur photographer, had particularly appreciated. His firm (the North British Locomotive Co. Ltd.) had tried out a testing plant when building a turbine locomotive. It had been made adaptable to take engines down to 2 ft. 6 in. gauge. The turbine was a condensing locomotive, and by taking an L.M.S. boiler and adding its output to that of the turbine engine, it had been possible to test the condenser very satisfactorily.

In concluding, he wished Mr. Gresley every success in his campaign for a testing plant, which he knew to be inspired by the desire to further the scientific design of locomotives in Great Britain and the Dominions.

M. Place then replied to various points raised by the speakers. Answering Mr. Sams, he said that vertical forces were not measured at Vitry because they were limited to a small degree and had not been considered worth while taking into account. The question of a testing plant applicable to various gauges was actually under consideration, but it was not thought practicable to make one capable of accommodating broad gauge engines as well. The bench at Vitry worked very well and economically. Only 30 h.p. was needed for placing locomotives in position. A different method would have to be adopted if it was to take engines of different gauges, and this would require much more power. There seemed to be a solution, however, in building a separate bench with rails for various sub-standard gauges, since narrow gauge engines were lighter and easier to manipulate. As to the question regarding play in axleboxes raised by Mr. Chambers, there was apparatus at Vitry for reducing this to zero, or as near thereto as possible, before the tests were started.

M. Place concluded by expressing his pleasure at having been able to work in co-operation and complete confidence with Mr. Gresley and Mr. Bulleid. It had taught him many excellent features of British engineering, and he hoped they had learned something of engineering work in France.

At the close of the meeting, Mr. Gresley remarked that it was the last time he would take the chair, and he thanked the members of the institution for their support during his term as President.

* This plant was fully described and illustrated in THE RAILWAY GAZETTE, of September 28, 1934.

THE MODANE TROOP TRAIN DISASTER, 1917.—The accident to a troop train on the P.L.M. between Modane and St. Michel stations on December 12, 1917, is generally regarded as having been among the most serious in history, but owing to the suppression of particulars by the military authorities at the time, its magnitude has not hitherto been precisely ascertained. What is believed to be the first published account of any detail has now appeared in an American contemporary, *Railroad Stories*. The train involved was conveying French soldiers returning for Christmas leave after the battle of the Piave, and owing to its being heavier than usual, the brakes failed to hold it on the long 1 in 33 gradient of the line. The friction between the wheels and brake blocks generated a stream of sparks which set fire to the carriage underframes, and speed had risen to such an extent on reaching a sharp curve leading to a bridge across a gorge just above St. Michel station that the engine was derailed and the leading coaches fell into the ravine. As a result of the fire and derailment, some four hundred lives were lost; the total fatalities are placed at 543, a number of men having jumped from the burning train before it left the rails. Injured are estimated at 250, and it is believed that 243 escaped.

XUM

PARLIAMENTARY NOTES

Railway Administration in Burma

The House of Commons in Committee on the Government of India Bill on April 10 passed in a few minutes without discussion the clauses in the Bill relating to the machinery proposed for the administration of railways in Burma. The following indicates the nature of the clauses (which are few in number): The Executive Authority in Burma in respect of the construction, operation, and maintenance of railways in Burma shall be exercised by a Railway Board constituted as foreshadowed in the Editorial on page 88 of THE RAILWAY GAZETTE of January 19, 1934.

Several amendments of a drafting or minor character were agreed to on the motion of Sir Samuel Hoare, Secretary of State for India. One or two however, it is desirable to mention. An addition was made to clause 363 providing that the Government and its officers shall perform such functions for securing safety on railways as in the opinion of the Government should be performed by persons independent of the Board of Management in Burma. A similar provision, it may be recalled, was inserted in the part of the Bill relating to railways in India.

An addition was made to clause 369 (provisions as to certain obligations of the Railway Board) to the following effect: Where the Secretary of State in Council has assumed or incurred any obligation in connection with railways in Burma, he shall be deemed to have provided for the said purposes an amount equal to the capital value of the obligation as shown in the accounts of the Government of India immediately before the commencement of this part of this Act. Nothing in this subsection shall be construed as preventing the Board from making payments to the Government of Burma in reduction of the principal of any such amount as aforesaid out of moneys other than receipts on revenue account.

Appeal to Railway Tribunal

The House of Commons in Committee on April 11 considered a number of proposed new clauses for the Government of India Bill.

Sir Donald Somervell, the Solicitor General, proposed four new clauses relating to railways, and dealt with them seriatim. The first provided that if the Federal Railway Authority, in relation to interchange of traffic or maximum or minimum rates and fares or station or service terminals, give any direction to a Federated State, the State may complain that the direction discriminates unfairly against the State, and any such complaint shall be determined by the Railway Tribunal. In regard to this clause the Solicitor General said that clause 187 of the Bill which dealt with the same subject had been withdrawn. It had been represented that the original clause did not sufficiently indicate the principle on which important matters such as disputes should be settled by the Railway Tribunal which was being set up under the Bill. The clause he was now moving and the three following clauses covered the same subject matter and made more specific the principles which the Government thought should apply. A State railway might feel that some arrangements were unfair having regard to the Federal charges or arrangements. If they had a grievance it was right that they should be able to go to the Railway Tribunal to ascertain whether or not their grievance was just. The disputes that would go to the Railway Tribunal were disputes that related to traffic administration. Such were on a different basis from questions of safety which were questions of legislative policy applying to the country as a whole.

Mutual Traffic Facilities

The second new clause set out the general principle to be found in any Railway Act. It provided that it should be the duty of the Authority of every Federated State so to exercise their powers in relation to the railways as to afford all reasonable facilities for the receiving, forwarding and delivering of traffic, including through traffic at through rates. That was the controlling principle of the Railway Tribunal in considering any complaints. In cases where these principles had not been complied with complaint should be made to and determined by the Railway Tribunal.

Construction of Railways

The third new clause dealt with the important matter of the construction and reconstruction of railways. Where there were systems covering to some extent the same area and there was a proposal to construct a new line, it might well be that an existing system felt that the new line was unnecessary or that it should be constructed in a different direction. It might well be that the proposed new line would affect the interests of an existing system. The latter would have a case which ought to be heard. The clause he was now proposing said that the Governor-General should make rules requiring the Authority and any Federated State to give notice in such cases as the rules might prescribe of any proposal for constructing a new railway. The rules should contain provisions for objections to be lodged by the Authority or by a Federated State on the ground that the carrying out of the proposal would result in unfair or uneconomic competition. The matter would then be referred to the Railway Tribunal.

The Railway Tribunal

In regard to the fourth new clause (Railway Tribunal), the Solicitor General continued, there was an important point, namely, that the president should be a judge of the Federal Court. The Tribunal would have important matters to decide. The other two members of the Tribunal would be persons selected by the Governor-General from a panel of eight persons with railway knowledge or business experience. Such a Tribunal should inspire confidence. The remainder of the clause dealt with ordinary matters and gave the powers conferred on the Tribunal. There was a provision for an appeal to the Federal Court from a decision of the Tribunal on questions of law, but no further appeal would lie. The general nature of the ground covered by the clause was implicit in the provisions which the House had already passed.

After some detail questions as to accession by the States, the first new clause was agreed to, as were also the second (Traffic Facilities) and the third (Construction of Railways) after brief discussion.

Constitution of the Railway Tribunal

Considerable discussion took place on the fourth new clause (which sets up the Railway Tribunal and deals with its powers and functions). The Solicitor General, replying to various queries, contended that much difficulty would arise if more specific provision were made in the clause as to the personnel and qualifications of the members of the Tribunal. He also said that the Government had carefully considered the question of the number of members of the Tribunal, and had decided that the number should be three.

Ultimately the clause was agreed to.

Questions in Parliament

Paris-Brindisi Service

Mr. Lyons on April 17 asked the Under-Secretary for Air whether and from what date the train journey Paris-Brindisi was to be entirely eliminated from the Empire air services of Imperial Airways.

Sir Philip Sassoon.—Entire elimination of the Paris-Brindisi train journey is intended eventually, but I am not in a position to give a definite date. A service which will carry part of the Empire mail by air, to fly twice a week each way between London and Brindisi, is due to come into operation on April 28.

THE EVESHAM FATAL DERAILMENT.—As recorded on page 472 of our issue of March 8, the driver lost his life in the derailment, on February 25, of a passenger train at Evesham, L.M.S.R. The coroner's inquest at the time was adjourned until April 12, on which date it was concluded by a verdict of accidental death, coupled with a rider that suggested defective permanent way. Colonel Mount conducted an inquiry into the case and his report will be published in due course.

NOTES AND NEWS

Royal Station Hotel, York.—With a view to meeting the increased demand at the York Royal Station Hotel for bedrooms communicating with bathrooms, the L.N.E.R. is proposing to convert a number of bedrooms into bathrooms communicating with adjacent bedrooms.

Canadian National Refunding Loan.—The announcement was made in Montreal on April 19 that the refunding loan of the Canadian National Railways for $48,400,000, being $35,000,000 of 3 per cent. nine-year bonds and the balance of 2 per cent. three-year bonds, had been oversubscribed by $40,000,000.

Grand Trunk Junior Stocks.—Satisfaction is expressed by the directors of Grand Trunk Junior Stocks in their report for the 18 months to February 28 at the recent decision allowing special leave to appeal to the Judicial Committee of the Privy Council against the judgment of the Appeal Court in Canada dismissing Mr. Lovibond's action. The appeal may come on for hearing before the Privy Council not later than July next.

Jubilee Homes for United Steel Companies' Employees.—The United Steel Companies Limited has decided to establish a permanent memorial of the Silver Jubilee in the shape of convalescent and holiday homes for the staff, with the possible alternative or addition of cottage homes for retired employees. This course has been decided upon instead of a holiday or holiday payments. A sum of at least £10,000 will be available for the purpose.

Ottoman Railway from Smyrna to Aidin.—According to an unofficial report by Reuters the Turkish Government has agreed to pay £1,855,000 for the purchase of the British-owned Smyrna-to-Aidin Railway, this amount to be paid at the rate of £147,000 annually, interest being allowed at the rate of 7 per cent. per annum. Negotiations have been proceeding for some time regarding this purchase, but no official information as to their result has yet been received by the company in London.

York Station.—The L.N.E.R. is to carry out a scheme of improvements to the booking office at York station. The present office is in two sections, one on each side of the booking hall and there is no separate enquiry office. The improvements provide for the abandonment of the office on the north side of the booking hall and the enlargement of the office on the south side, which will be equipped with a glass front on the lines of the booking office at Harrogate. The new booking office will be extended to take in the existing gentlemen's first class waiting room, and a new waiting room will be provided in one of the rooms adjoining the stationmaster's office. The space now occupied by the booking office on the north side will be used for show cases.

Derailment in Nova Scotia.—The locomotive of a Canadian National Railways express from Sydney (Nova Scotia) to Halifax was derailed and fell down an embankment near Antigonish early on Wednesday morning, April 17. Several coaches were dragged down with it and it is reported that six persons were killed, including the fireman.

Railway Students' Association Annual Convention.—The Annual Convention of the Railway Students' Association of the London School of Economics is to be held this year at Birmingham from July 11 to 15. Papers will be read by Prof. P. Sargeant Florence, Sir Herbert Austin, and Mr. F. K. Pelley, District Goods Manager, Birmingham, G.W.R. In addition to a reception given by the Lord Mayor of Birmingham, visits will be made to a number of places of transport interest. The proceedings will be opened on Friday, July 12, by Sir William Beveridge, President of the Association and Director of Studies, London School of Economics.

Institute of Transport: Metropolitan Graduate and Student Society.—The fourteenth annual report of this Society states that the membership of 272 on April 2 last represented an increase of 12 over the figure for last year. During the session, 41 members joined and 29 severed their connection with the Society. The present distribution of membership among transport interests is as follows: Southern Railway, 58; L.N.E.R., 40; L.M.S.R., 37; G.W.R., 21; Canadian National Railways, 1; Railway Research Service, 1; L.P.T.B., 54; Port of London Authority, 20; Canals, 1; Shipping companies, 4; Road transport (passenger), 6; Road transport, goods, 6; Air transport, 2; Others, 21.

Conference of Indian Pensioners.—At the conference of Indian pensioners—notice of which was given on page 660 of THE RAILWAY GAZETTE of April 5—the Caxton Hall, Westminster, was crowded, and the following motion was carried unanimously:—That copies of a memorial be sent to Members of Parliament by individual pensioners, under cover of personal letters, pointing out that the India Bill did not secure the safety of pensions and that the Bill was defective as it did not contain the obligation of the Crown to see that money required to pay pensions was remitted from India. Civil officers are appointed under agreement with the Secretary of State for India and military officers with the Secretary of State for War, so that in both cases responsibility for the security of pensions paid under those agreements should rest with the British, and not be left to the mercy of the Indian Government, of which the pensioners were not servants, but of the Crown.

Cumberland Line Closing.—The passenger and goods train services between Bullgill and Brigham via Dearham, L.M.S.R., will be withdrawn after the last train on Saturday, April 27. Dearham station is to be closed entirely. All parcels, miscellaneous, and merchandise traffics for Dearham will be dealt with at Maryport station.

Road Accidents.—The Ministry of Transport return for the week ended April 20 of persons killed or injured in road accidents is as follows. The figures in brackets are those for the corresponding week of last year:—

	Killed, including deaths resulting from previous accidents	Injured
England...	... 91 (116)	3,438 (3,694)
Wales ...	... — (5)	152 (138)
Scotland...	... 12 (12)	352 (349)
	103 (133)	3,942 (4,181)

The total fatalities for the previous week were 91, as compared with 117 for the corresponding period of last year.

L.N.E.R. Valuation for Rating.—The Railway Assessment Authority has completed the hearing and consideration of the representations made by the L.N.E.R. and certain local authorities with respect to the figure of £3,500,000 appearing in the "draft" railway valuation roll as the net annual value of that company's undertaking as a whole in England and Wales, and will meet at 11 a.m. on Saturday, April 27, in the Council Chamber, Middlesex Guildhall, Westminster, S.W.1, for the purpose of giving its determination of the figure which is to appear in the "completed" railway valuation roll. The meeting will be public.

Nypano Railroad Bond Extension.—The Nypano Railroad Company, which was incorporated on March 16, 1896, as a reorganisation of the New York, Pennsylvania & Ohio Railroad Company, and whose properties of 585 miles of line are now operated under lease by the Erie Railroad, has extended the maturity of New York, Pennsylvania & Ohio prior lien 4½ per cent. bonds from March 1, 1935, to March 1, 1950. The new rate of interest is 4¼ per cent. per annum. Holders who did not desire to present bonds for extension were given the offer of having them purchased at the principal amount and accrued interest.

Fenchurch Street-Southend Improvements.—An improved time-table is to come into force between Fenchurch Street and Southend, on April 29, an occurrence made possible by the completion of the extensive remodelling works at the former terminus. It has been obvious for some time past that the heavy traffic on this route could be accelerated and improved only by the use of heavier trains, necessitating more powerful and heavier locomotives and an improved layout and signalling at

the London end of it. The heavier engines entailed bridge strengthening outside Fenchurch Street and this work, together with the re-arrangement of the permanent way to facilitate ingress and egress, the substitution of colour light electrically-operated for manually-worked semaphore signals, and improved platform, subway and other passenger facilities in the station, are now all but complete. These works have been carried out by or under the supervision of the L.N.E.R. engineers, and the supply of heavier engines and rolling stock and the improvement of the timetable has been the responsibility of the L.M.S.R., in consultation with the L.N.E.R. administration.

Sentinel Waggon Works Limited.—Mr. T. M. Walsh has been appointed Receiver and Manager of Sentinel Waggon Works Limited, on behalf of a debenture holder. The company was formed in 1920. The issued capital is £450,000 in 200,000 ordinary shares of 15s. each and £300,000 preference shares of £1 each.

The Model Railway Exhibition

The reviewer of the annual Model Railway Exhibition cannot but envy the resource of the undergraduate who parried an awkward question in divinity with the words, " who am I to distinguish between the major and the minor prophets, when both are so great ? " An equal diffidence is felt in criticising the exhibits at the Central Hall, Westminster, for where the standard is so high only the skilled craftsman should presume to differentiate.

In this, its centenary year, no visitor will grudge the Great Western Railway its large representation among the exhibits of members' work. A new model of *City of Truro*, shown by Sir Francis Layland-Barratt, stands alongside Mr. W. L. Sparkes' *Duke of Connaught*, and the two form an interesting memento in miniature of the historic run from Plymouth to London of May 9, 1904. It is instructive to compare with them Mr. L. R. Ellis' *Windsor Castle* at the head of its six-coach Cheltenham Flyer, with all fittings.

A striking feature of the L.N.E.R. stand is the collection of old G.C.R. four-wheel and six-wheel stock exhibited by Mr. G. Y. Hemingway. With it Mr. L. Forrest is showing his model of a Sacre 2-2-2 express engine as rebuilt by Mr. J. G. Robinson. This display gains in value from the informative descriptive matter which accompanies it. Railway students will appreciate it the more in that such information is not always given the prominence it deserves at the exhibition.

Mr. W. A. Stanier seems to have chiefly endeared himself to L.M.S. modellists by his Pacifics. " Royal Scots " are, of course, well represented, and one of these engines, in 00 gauge, is shown at the head of the Royal Scot train by Mr. A. F. Buck. L.N.W.R. history is recalled by Mr. E. Walker's 2-2-2, *Tornado*. Among the Southern Railway exhibits is an internally fitted four-coach Atlantic Coast express and " Lord Nelson " engine by Mr. H. C. Raindle.

Continental models include the now noted products of Mr. G. P. Keen, President of the Model Railway Club, and Mr. W. F. P. Kelly. The Association des Amis des Chemins de fer Français is again showing members' work of an excellent standard, and thanks to this body, visitors are once more able to admire the super-detail large-scale models built by French railway apprentices. The Society of Model and Experimental Engineers is operating its usual passenger-carrying track, on which *Cosmor Bonsor* has been doing strenuous work after a life of 36 years and a total haul of over 150,000 persons.

The main line railways have combined in a stand for the sale and distribution of literature, postcards, and puzzles. They are also, together with the Canadian Pacific Railway, showing models of locomotives and rolling stock. W. J. Bassett-Lowke Limited and other leading model firms have arranged representative displays, and the cinema, this year with sound, continues to be an attraction. The exhibition closes to-morrow (Saturday) at 10 p.m.

Exports of Railway Material from the U.K. in March

	Mar., 1935	Mar., 1934	Three Months Ending Mar., 1935	Three Months Ending Mar., 1934
	£	£	£	£
Locomotives, rail	76,876	26,840	227,360	86,355
Carriages and wagons	96,524	68,078	247,257	171,140
Rails, steel	44,990	39,709	189,462	118,460
Wheels, sleepers, fishplates and miscellaneous materials	105,735	59,489	299,333	174,685

Locomotive and rail exports included the following :—

	Locomotives Mar., 1935	Locomotives Mar., 1934	Rails Mar., 1935	Rails Mar., 1934
	£	£	£	£
Argentina	—	—	5,488	4,481
Union of South Africa	—	—	18,174	8,007
British India	3,150	11,280	30,380	11,704

British and Irish Railways Stocks and Shares

Stocks	Highest 1934	Lowest 1934	Prices Apl. 24, 1935	Prices Rise/Fall
G.W.R.				
Cons. Ord. ...	66½	48½	50	+1
5% Con. Prefce. ...	118	109	116	+1½
5% Red. Pref. (1950)	115	107	110½	—
4% Deb.	117	105	113	—
4½% Deb.	119	109	115½	—
4½% Deb.	129½	115¼	124½	—
5% Deb.	135	126¼	136½	—
2½% Deb.	75	64	76	—
5% Rt. Charge ...	134 7/16	123¼	130½	—
5% Cons. Guar. ...	132¾	121¾	128	+⅛
L.M.S.R.				
Ord.	30½	19⅛	19½	+½
4% Prefce. (1923)	64¼	41	49	+1½
4% Prefce. ...	87	69½	81	+1½
5% Red. Pref. (1955)	107	92½	100½	—
4% Deb.	114⅛	100½	106	+1
5% Red. Deb. (1952)	118 11/16	111¼	116½	—
4% Guar.	106½	96¾	102	+1
L.N.E.R.				
5% Pref. Ord. ...	24¾	13½	13	+1
Def. Ord.	11½	6⅞	6¼	+⅛
4% First Prefce. ...	76	59½	60	—
4% Second Prefce.	47	25½	24	+½
5% Red. Pref. (1955)	94½	80	81⅛	—
4% First Guar. ...	104	92	99	+1½
4% Second Guar.	97⅞	86½	90½	+2
3% Deb.	90	74½	80	+1
4% Deb.	114	99¼	104	—
5% Red. Deb. (1947)	117	108	112½	—
4½% Sinking Fund Red. Deb.	111¼	105¼	110½	—
Southern				
Pref. Ord.	90	63⅛	84	—
Def. Ord.	32⅝	19	24	+½
5% Prefce. ...	118 3/16	107½	116	+1½
5% Red. Pref. (1964)	115¾	107½	114⅛	—
5% Guar. Prefce.	132	120¾	128	+½
5% Red. Guar. Pref. (1957)	119½	113	117½	—
4% Deb.	116½	103¼	112	—
5% Deb.	134	124 13/16	134½	—
4% Red. Deb. 1962–67	113 11/16	105 9/16	111½	—
Belfast & C.D.				
Ord.	6	5	5	—
Forth Bridge				
4% Deb.	110	100	109½	—
4% Guar.	110	100	108½	—
G. Northern (Ireland)				
Ord.	9¾	4 15/16	9	—
G. Southern (Ireland)				
Ord.	25	12½	25	—
Prefce.	21½	13 15/16	26¼	—
Guar.	48	39	58¼	—
Deb.	67	59	71	—
L.P.T.B.				
4½% "A" ...	126	115	124½	—
5% "A"	135½	124½	131½	—
4½% "T.F.A." ...	113½	107½	112	—
5% "B"	131¾	118	126⅛	—
"C"	97	73	99	—
Mersey				
Ord.	15¼	7	12	—
4% Perp. Deb. ...	93½	82½	95½	+1
3% Perp. Deb. ...	66½	61½	69½	—
3% Perp. Prefce. ...	54	44½	52½	—

British and Irish Traffic Returns

GREAT BRITAIN	Totals for 15th Week			Totals to Date		
	1935	1934	Inc. or Dec.	1935	1934	Inc. or Dec.
	£	£	£	£	£	£
L.M.S.R. (6,926¼ mls.)						
Passenger-train traffic...	425,000	400,000	+ 25,000	5,664,000	5,817,000	– 153,000
Merchandise, &c. ...	483,000	467,000	+ 16,000	6,739,000	6,629,000	+ 110,000
Coal and coke ...	257,000	259,000	– 2,000	3,954,000	3,954,000	—
Goods-train traffic ...	740,000	726,000	+ 14,000	10,693,000	10,583,000	+ 110,000
Total receipts	1,165,000	1,126,000	+ 39,000	16,357,000	16,400,000	– 43,000
L.N.E.R. (6,339 mls.)						
Passenger-train traffic...	281,000	266,000	+ 15,000	3,771,000	3,830,000	– 59,000
Merchandise, &c. ...	327,000	300,000	+ 27,000	4,655,000	4,686,000	– 31,000
Coal and coke ...	248,000	255,000	– 7,000	3,621,000	3,709,000	– 88,000
Goods-train traffic ...	575,000	555,000	+ 20,000	8,276,000	8,395,000	– 119,000
Total receipts	856,000	821,000	+ 35,000	12,047,000	12,225,000	– 178,000
G.W.R. (3,749¼ mls.)						
Passenger-train traffic...	174,000	174,000	—	2,369,000	2,469,000	– 100,000
Merchandise, &c. ...	186,000	194,000	– 8,000	2,696,000	2,619,000	+ 77,000
Coal and coke ...	104,000	107,000	– 3,000	1,588,000	1,626,000	– 38,000
Goods-train traffic ...	290,000	301,000	– 11,000	4,284,000	4,245,000	+ 39,000
Total receipts	464,000	475,000	– 11,000	6,653,000	6,714,000	– 61,000
S.R. (2,172 mls.)						
Passenger-train traffic...	267,000	251,000	+ 16,000	3,565,000	3,632,000	– 67,000
Merchandise, &c. ...	66,000	65,000	+ 1,000	884,000	929,500	– 45,500
Coal and coke ...	30,000	32,000	– 2,000	510,000	547,500	– 37,500
Goods-train traffic ...	96,000	97,000	– 1,000	1,394,000	1,477,000	– 83,000
Total receipts	363,000	348,000	+ 15,000	4,959,000	5,109,000	– 150,000
Liverpool Overhead ... (6½ mls.)	1,109	1,006	+ 103	16,331	16,138	+ 193
Mersey (4½ mls.) ...	4,052	4,128	– 76	61,446	63,619	– 2,173
*London Passenger Transport Board ...	544,100	530,100	+ 14,000	21,767,800	21,360,400	+ 407,400
IRELAND						
Belfast & C.D. pass. (80 mls.)	1,861	1,819	+ 42	25,676	27,840	– 2,164
,, ,, goods	580	616	– 36	7,191	7,998	– 807
,, ,, total	2,441	2,435	+ 6	32,867	35,838	– 2,971
Great Northern pass. (543 mls.)	7,900	8,000	– 100	120,550	115,650	+ 4,900
,, ,, goods	9,100	8,200	+ 900	129,050	124,700	+ 4,350
,, ,, total	17,000	16,200	+ 800	249,600	240,350	+ 9,250
Great Southern pass. (2,124 mls.)	20,208	19,032	+ 1,176	286,493	294,320	– 7,827
,, ,, goods	35,702	33,849	+ 1,853	533,718	480,893	+ 52,825
,, ,, total	55,910	52,881	+ 3,029	820,211	775,213	+ 44,998

* 41st week, the receipts for which include those undertakings not absorbed by the L.P.T.B. in the corresponding period last year; last year's figures are, however, adjusted for comparative purposes

British and Irish Traffic Returns

GREAT BRITAIN	Totals for 16th Week			Totals to Date		
	1935	1934	Inc. or Dec.	1935	1934	Inc. or Dec.
	£	£	£	£	£	£
L.M.S.R. (6,926¼ mls.)						
Passenger-train traffic...	641,000	405,000	+ 236,000	6,305,000	6,222,000	+ 83,000
Merchandise, &c. ...	410,000	480,000	– 70,000	7,149,000	7,109,000	+ 40,000
Coal and coke ...	221,000	246,000	– 25,000	4,175,000	4,200,000	– 25,000
Goods-train traffic ...	631,000	726,000	– 95,000	11,324,000	11,309,000	+ 15,000
Total receipts	1,272,000	1,131,000	+ 141,000	17,629,000	17,531,000	+ 98,000
L.N.E.R. (6,339 mls.)						
Passenger-train traffic...	383,000	262,000	+ 121,000	4,154,000	4,092,000	+ 62,000
Merchandise, &c. ...	271,000	324,000	– 53,000	4,926,000	5,010,000	– 84,000
Coal and coke ...	198,000	244,000	– 46,000	3,819,000	3,953,000	– 134,000
Goods-train traffic ...	469,000	568,000	– 99,000	8,745,000	8,963,000	– 218,000
Total receipts	852,000	830,000	+ 22,000	12,899,000	13,055,000	– 156,000
G.W.R. (3,749¼ mls.)						
Passenger-train traffic...	262,000	178,000	+ 84,000	2,631,000	2,647,000	– 16,000
Merchandise, &c. ...	163,000	192,000	– 29,000	2,859,000	2,811,000	+ 48,000
Coal and coke ...	99,000	102,000	– 3,000	1,687,000	1,728,000	– 41,000
Goods-train traffic ...	262,000	294,000	– 32,000	4,546,000	4,539,000	+ 7,000
Total receipts	524,000	472,000	+ 52,000	7,177,000	7,186,000	– 9,000
S.R. (2,172 mls.)						
Passenger-train traffic...	379,000	251,000	+ 128,000	3,944,000	3,883,000	+ 61,000
Merchandise, &c. ...	54,500	68,000	– 13,500	938,500	997,500	– 59,000
Coal and coke ...	26,500	31,000	– 4,500	536,500	578,500	– 42,000
Goods-train traffic ...	81,000	99,000	– 18,000	1,475,000	1,576,000	– 101,000
Total receipts	460,000	350,000	+ 110,000	5,419,000	5,459,000	– 40,000
Liverpool Overhead ... (6½ mls.)	1,099	1,105	– 6	17,430	17,243	+ 187
Mersey (4½ mls.) ...	4,229	4,016	+ 213	65,675	67,635	– 1,960
*London Passenger Transport Board ...	526,700	539,900	– 13,100	22,294,500	21,900,200	– 394,300
IRELAND						
Belfast & C.D. pass. (80 mls.)	1,935	1,823	+ 112	27,611	29,663	– 2,052
,, ,, goods	611	535	+ 76	7,802	8,533	– 731
,, ,, total	2,546	2,358	+ 188	35,413	38,196	– 2,783
Great Northern pass. (543 mls.)	10,650	7,350	+ 3,300	131,200	123,000	+ 8,200
,, ,, goods	9,450	8,750	+ 700	138,500	133,450	+ 5,050
,, ,, total	20,100	16,100	+ 4,000	269,700	256,450	+ 13,250
Great Southern pass. (2,124 mls.)	22,386	18,231	+ 4,155	308,879	312,551	– 3,672
,, ,, goods	36,114	33,588	+ 2,526	569,832	514,481	+ 55,351
,, ,, total	58,500	51,819	+ 6,681	878,711	827,032	+ 51,679

* 42nd week, the receipts for which include those undertakings not absorbed by the L.P.T.B. in the corresponding period last year; last year's figures are, however, adjusted for comparative purposes
Good Friday, 1935

Owing to the Easter holidays the traffic returns for the 15th and 16th weeks of the present year are both published in this issue

CONTRACTS AND TENDERS

The Metropolitan-Cammell Carriage & Wagon Co. Ltd. has received an order for five 50-ton side-discharge bogie hopper wagons complete with vacuum brake for the transport of ore in South Africa.

The Metropolitan-Cammell Carriage & Wagon Co. Ltd. has also received orders from the L.M.S.R. for 50 four-wheeled vacuum-braked steel underframes for type B R containers.

D. Wickham & Co. Ltd. has received the following orders:—One No. 17A petrol-driven gang trolley for the Buenos Aires Provincial Railway; one No. 17A trolley with special low-loading platform trailer for conveying motor cars on the Lower Zambesi bridge, for the Central African Railway; one No. 17A trolley with trailer and one No. 8 light inspection railcar for the Midland Uruguay Railway; and one No. 8 light inspection railcar for the North Western Uruguay Railway.

Locos. and Boilers for Palestine

Nasmyth, Wilson & Co. Ltd. has received an order for four standard gauge shunting tank locomotives for the Palestine Railways to the inspection of the Crown Agents for the Colonies.

The Vulcan Foundry Limited has received an order for 12 superheated boilers for Baldwin-built 4-6-0 standard gauge locomotives, Palestine Railways, to the inspection of the Crown Agents for the Colonies.

Hurst Nelson & Co. Ltd. has received an order for a further six tank wagons for the Rhodesia Railways. These wagons are for the conveyance of fuel oil. The ten comprising the previous order, for the announcement of which see this column in our February 15 issue, were for the transport of petrol. Both orders are to the inspection of Messrs. Sir Douglas Fox & Partners.

Hurst Nelson & Co. Ltd. has, in addition, received an order from the Jodhpur Railway for five bogie-carriage underframes for metre-gauge, complete with wheels and axles; and an order from the Assam-Bengal Railway for two cast steel bogie trucks for wagons, complete with wheels and axles. These Indian railway orders are to the inspection of Messrs. Rendel, Palmer & Tritton.

The West Bromwich Spring Co. Ltd. has received an order for a quantity of spiral springs from the Bengal-Nagpur Railway.

Wota (India) Limited has received an order from the Indian Stores Department for 160 broad-gauge side buffers (20 tons) at a total price of Rs. 12,640, free delivery Bombay, and Heatly & Gresham Limited has also received an order for 160 side buffers with india-rubber springs complete at a total price of Rs. 9,780 f.o.r. Matunga (Bombay).

The Gloucester Railway Carriage & Wagon Co. Ltd. has received an order for a quantity of ironwork for the construction abroad of 100 covered ventilated fruit wagons for the Buenos Ayres Great Southern Railway.

Chinese Orders

The Metropolitan-Cammell Carriage & Wagon Co. Ltd., has received from the Chinese Government Purchasing Commission an order for 100 all-steel bogie covered wagons of 40 tons capacity for the Canton – Hankow Railway.

The Chinese Government Purchasing Commission, on behalf of the Ministry of Railways, China, has placed orders as follows:—

Reiss Brothers Limited: Sand blast plant and an electric arc furnace of 10-cwt. capacity.
Alfred Herbert Limited: Shaping machine.
A. Gallenkamp & Co.: Pyrometer.
A. A. Jones & Shipman Limited: Twist drill grinder.
Morgan Crucible Company: Crucibles.
James Howden & Co. (Land) Ltd.: Coal-fired furnace.
Thos. Firth & John Brown Limited: Hardness testing machine.
Francis Theakston (1933) Limited: Light rails and cars for machine shops.
Samuel Platt Limited: Tube fitting screwing machines, and bolt and nut forging machines.
Herbert Hunt Limited: Tap sharpening machine.
Thompson Bros (Bilston) Limited: Galvanising plant.

The whole of the equipment is being supplied to the inspection of the consulting engineers, Messrs Fox & Mayo.

G. R. Turner Limited and Head Wrightson & Co. Ltd. have each received orders from the Chinese Government Purchasing Commission to the inspection of Messrs. Fox & Mayo for the supply of fifty high-sided open wagons of 40-tons capacity.

Cowans Sheldon & Co. Ltd., has received an order from the Chinese Government Purchasing Commission, to the inspection of Messrs. Fox & Mayo, for the supply of one 30-m. diam. engine turntable.

Ransomes & Rapier Limited has received an order from the Chinese Government Purchasing Commission, to the inspection of Messrs. Fox & Mayo, for one 30-m. diam. engine turntable of the Mundt type, to carry a working load up to 330 tons, and a test load of 420 tons. This will be the largest engine turntable so far built in this country.

Ransomes & Rapier Limited has also received an order from the Crown Agents for the Colonies for one 40-ft. diam. centrally-balanced engine turntable for the British Guiana Railway.

J. Stone & Co. (India) Ltd. has received an order from the Indian Stores Department for 5,000 steatite porcelain insulators at a total price of Rs. 22,109.

Kitson & Co. Ltd. has received an order from the Jodhpur Railway, to the inspection of Messrs. Rendel, Palmer & Tritton, for a total of three superheated locomotive boilers, respectively one for FO class and two for P and M class locomotives.

W. Griffiths & Sons Ltd. has received an order from the Bengal-Nagpur Railway for about 300 laminated bearing springs.

The Indian Stores Department has placed running contracts for nuts and bolts for the G.I.P., E.B., and N.W. Railways' requirements with Guest, Keen, Williams Limited, Richardson & Cruddas and Burn & Co. Ltd.

John Baker & Bessemer Limited has received an order from the Buenos Ayres Western Railway for a total of 103 axles and 468 tyres of varying sizes for locomotives, carriages and wagons.

The Egyptian State Railways Administration has placed the following orders:—

Monkbridge Iron & Steel Co. Ltd.: Locomotive tyres (Ref. E.S.R. 21,282, total price £467 f.o.b. Liverpool).
W. T. Avery Limited: Weighing machine; item 1, price £552; also Chas. Ross Limited; item 2, price £245; Duchesne & Co.: item 3, price £165; and H. Pooley & Son, item 4, price £138. (Ref. No. E.S.R. 55.78.)
P. & W. MacLellan Limited: Pick beaters and box spanners, item 1, price £375; also Sheffield Steel Products Limited: item 2, price £100. (Ref. E.S.R. No. 10.72.)
Colthurst & Harding Limited: Paints, items 3 and 6, total price £221; also Thos. Henshelwood & Co.: item 5, cost £105. (Ref. E.S.R. 60.108.)
The Rivet Bolt & Nut Co. Ltd.: Rivets. (Ref. E.S.R. 303 G3 9, total price £524 13s.)
Osnabrucker Kupfer und Drahtwerk (through Laband & Co. Ltd.): Round copper bars (Order No. 6.118, total price £151 4s. 7d.)
British Insulated Cables Limited: Cables. (Ref. E.S.R. 30.119, total price £3,740.)
H. J. Skelton & Co. Ltd.: Plain galvanised sheets (Ref. E.S.R. No. 1.190, price £742) and round mild steel (acid) square and flat (Ref. E.S.R. 301 G3/11, total price approximately £1,302).
J. Blakeborough & Sons Limited: Valves (Order No. 21,279, total price £188 10s.).

The Indian Stores Department has placed the following orders for tyres:—Jessop & Co. Ltd.: 200 locomotive and tender tyres at a total price of Rs. 18,350; J. O'Hara Murray & Co.: 1,200 carriage and wagon tyres at a total price of Rs. 97,350; Shaw, Wallace & Co. Ltd.: 300 carriage and wagon tyres at a total price of Rs. 20,137.

The South African Railways & Harbours Board has recently placed orders to the values named, as follows:—

Bayliss Jones & Bayliss Limited: Coach screws (£13,525).
Dorman Long & Co. Ltd.: Check rail chairs (£3,806 5s.).
Usines & Acieries Allard: Cast-steel buttresses (£3,714 5s.).
Tees Side Bridge & Engineering Co. Ltd.: Gauge clips (£5,467).
Guest Keen & Nettlefolds Limited: T-headed bolts (£11,100) and gauge clips (£370).
Anderston Foundry Limited: Gauge clips (£10,389) and T-headed bolts (£341).
North West Rivet Bolt & Nut Co. Ltd.: T-headed bolts (£8,449).
Nuts & Bolts (Darlaston) Limited: T-headed bolts (£260).
Acieries d'Haine St. Pierre et Sequin: Check rail chairs and buttresses (£9,171).

Kitchen & Wade Limited has received an order for one 32-in. sensitive radial drilling and tapping machine with self-contained motor drive, from the Buenos Ayres Western Railway.

The Chief Controller of Stores, Indian Stores Department, invites tenders receivable at Simla by May 25, for the supply of one a.c. motor equipment for testing train-lighting dynamos for the North Western Railway of India.

OFFICIAL NOTICES

South Indian Railway Company Limited

THE Directors are prepared to receive Tenders for the supply of :—

1.—PRESSED STEEL SLEEPERS, KEYS AND DISTANCE PIECES.

2.—11,000-VOLT OUTDOOR SUBSTATION, SWITCHGEAR AND ACCESSORIES.

Specifications and Forms of Tender will be available at the Company's Offices, 91, Petty France, Westminster, S.W.1.

Tenders, addressed to the Chairman and Directors of the South Indian Railway Co. Ltd., marked "Tender for Steel Sleepers" or as the case may be, with the name of the firm tendering, must be left with the undersigned not later than 12 noon on Wednesday, the 15th May, 1935, in respect of Specification No. 1, and not later than 12 noon on Friday, the 10th May, 1935, in respect of Specification No. 2.

The Directors do not bind themselves to accept the lowest or any Tender.

A charge, which will not be returned, will be made of £1 for each copy of Specification No. 1 and of 5s. for each copy of Specification No. 2.

Copies of the drawings may be obtained from the Company's Consulting Engineers, Messrs. Robert White & Partners, 3, Victoria Street, Westminster, S.W.1.

A. MUIRHEAD,
Managing Director.

91, Petty France,
Westminster, S.W.1.
24th April, 1935.

THE Proprietor of British Patents Nos. 198,875, dated May 2, 1922, and 171,542, dated September 7, 1920, both relating to "Improvements in Underframes for Railway and like Vehicles," and No. 329,720, dated March 1, 1929, relating to "Improvements in Railway Rolling Stock Underframe Structures," is desirous of entering into arrangements by way of a Licence or otherwise on reasonable terms for the purpose of exploiting the above Patents and ensuring their practical working in Great Britain.—Inquiries to B. Singer, Steger Building, Chicago, Illinois.

Rio Tinto Company Limited.

DIVIDEND ON SHARES TO BEARER.

HOLDERS of Share Warrants to Bearer are informed that they will receive payment of the Dividend declared at the General Meeting held on the 24th inst., at the rate of Two Shillings and Sixpence per Share on the Preference Shares, less Income Tax, on and after Tuesday, the 7th May, 1935, on presentation of Coupon No. 76 on the Preference Shares, either at the Company's Office in London, or at the Société Générale, 29, Boulevard Haussmann, Paris.

Coupons for payment in London must be left four clear days previously for examination, and may be deposited forthwith.

By Order,
R. H. BEECHER,
Secretary.

Offices of the Company :
3, Lombard Street, E.C.3.
25th April, 1935.

Railway Convalescent Homes Dinner

The Rt. Hon. Sir Robert Horne, Chairman of the Great Western Railway, presided on Tuesday, April 16, at the Spring Dinner of the Railway Convalescent Homes, which was held in the Wharncliffe Rooms, Hotel Great Central. The large attendance was notable, as the total of those present approached the 500 mark, and thus exceeded even the record of March, 1934. Among those present were :—

Lord Palmer, Sir Francis Joseph, the Rt. Hon. Edward Shortt, K.C., and Messrs. John Bromley, R. Carpmael, Ralph Cope, O. H. Corble, Ashton Davies, F. R. E. Davis, K. W. Doughty, F. Downes, W. E. C. Lazenby, J. F. Lean, D. V. Levien, J. B. L. Lindsay, J. Marchbank, John C. Mitchell, J. A. Milligan, V. A. M. Robertson, C. J. Selway, E. Rawdon Smith, H. Wheeler, William Whitelaw, and W. V. Wood.

Sir Robert Horne sent a telegram from the assembly to the King's Private Secretary congratulating their majesties on the approaching Silver Jubilee, and later in the evening a royal message of thanks was received. Before the interval Sir Robert made presentations of vellums of appreciation to two members recently retired from the committee of the Institution, namely, Mr. H. J. Frost, late of the Southern Railway, who was a member from 1924 to 1935, and Mr. David Sharpe, late of the L.M.S.R., a member from 1922 to 1933.

Sir Francis Joseph, a Director of the L.M.S.R., proposed the toast of "The Institution" and adopted a light and humorous tone, which was subsequently taken up by the other speakers. He wondered whether it was deliberately arranged that, following the presentation to "D. Sharp," the first toast should be entrusted to "A. Flat." As a member of the Board of the "best railway in the country" he was accustomed to be told by officers of the company everything they wished him to know, and Mr. H. Haigh, the Secretary of the Railway Convalescent Homes, had adopted a similar policy. Thus, he had recently become aware of the fact that eight convalescent homes were maintained through the members of the institution paying but ½d. a week, and these small contributions enabled the most valuable work to be carried out. Convalescence today was the keynote of the world, and what was important for nations assumed an even greater importance in the life of the individual. It was notable that the incidence of taxation had resulted in many of the stately homes of England being vacated, but the Railway Convalescent Homes had promptly found a most valuable use for certain of such mansions in taking them over and incorporating them in its chain of institutions. In coupling the toast with the name of Sir Robert Horne he could only say that Sir Robert was "a man whom to meet enriches those that meet him."

Sir Robert Horne's reply was interspersed with delightfully witty remarks. He said they had all listened with great pleasure to the remarks of appreciation of an institution dear to all their hearts. The management was beyond all praise in its administration of the homes it conducted for the alleviation of suffering, and the efficiency habitually shown in all its many branches with their great and beneficent results. In his youth he was always taught to seek the best, and was quite satisfied that he had done so when he accepted the chairmanship of the G.W.R., so therefore Sir Francis Joseph must have been mistaken when he referred to the L.M.S.R. as the "best railway in the country." He conceded to Sir Francis, however, one way in which the L.M.S.R. excelled all other railways, and that was in the large number of its staff who were members of the Railway Convalescent Homes. On his other hand was Mr. William Whitelaw, of the L.N.E.R. At the time of grouping very little was anticipated from his old company, the North British Railway, so far as the Railway Convalescent Homes were concerned, but events quickly showed this forecast to be hopelessly at fault, and whereas the general average of membership throughout the railways of Great Britain was 40 per cent., the Scottish average was no less than 80 per cent. This was perhaps the greatest tribute which could be paid to the value of the work done, because Scotsmen had a keen appreciation of securing value for money, and surely it was necessary only to mention the 80 per cent. Scottish membership in order to get others to join.

Mr. Percy Randall, a member of the Board of Trustees of the Railway Convalescent Homes, proposed the toast of "Our Guests" and referred in appreciative terms to the value of the assistance given by the railway directors and officers. He instanced Lord Palmer, the President in 1931, Mr. W. V. Wood, and Mr. Whitelaw, who had been President both in 1923 and in 1934, and had also opened the Ascot Home on August 28, 1924. During the 10 years between his two terms of office no fewer than 68,221 patients had passed through their hands. Finally, a word of praise was well deserved by Mr. Haigh, their Secretary, and his office staff in London, which was the hub of the wheel. In replying, Mr. Whitelaw spoke of the intense admiration which he felt for the Railway Convalescent Homes, as the work was one of those things which railwaymen did for themselves. That the work was appreciated was evidenced both by the increasing numbers passing through the homes and the growing membership of railwaymen paying their ½d. a week.

ACCIDENT PREVENTION FOR ENGINEERS.—Recognising that modern developments and processes demand an increasing standard of care in engineering works if accidents are to be avoided, Alfred Herbert Limited, of Coventry, is issuing to all employees a booklet of rules and advice designed to minimise the risk of mishaps. The rules are clearly set out and indexed, and the booklet is of pocket size.

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Railway Share Market

The stock and share markets have remained under the influence of the holiday atmosphere. Attendance in the Stock Exchange throughout the week was very restricted, as it was anticipated that the closing days of a three-week account would yield relatively little business. This view proved correct and in the absence of new buyers there was a tendency for dealers to put prices down.

This was particularly noticeable in the home railway market. There was a strong tendency at the opening of business on Tuesday as a result of an accumulation of buying orders from the public, but when these orders were satisfied at good prices the dealers lowered their quotations against profit-takers. On Wednesday there was something approaching a "bear" drive against prices of home railway junior stocks; notwithstanding, traffic returns were very good. Although the "market," which is only another way of describing those members who deal or job in stocks, seemed to create an impression that traffic receipts were not up to expectations, the fact remains that the increases announced have had the anticipated effect of reducing, or virtually extinguishing in some instances, the aggregate decrease which had accumulated. With the Silver Jubilee festivities attracting large crowds to London early next month and the coming Whitsuntide holiday there is believed to be reasonable ground for estimating a satisfactory increase in traffic receipts for some weeks to come. Nevertheless, the posting up of the Easter return in the Stock Exchange was followed by a fall of a point in Southern deferred and there were corresponding reductions in the prices of other stocks. Much of this fall, as already explained, was due to dealers protecting their books against attempts to snatch profits by short-term or account-to-account operators who were endeavouring to close in view of the end of the 21-day account this Friday.

Foreign railway stocks were inclined to harden under the influence of the report of the Railway Investigation Committee set up some time ago by the Argentine Government. It is hoped that the outcome of the committee's recommendations will be favourable to the Railways, and the likelihood of the exchange situation showing some improvement has had a beneficial effect on prices of Buenos Ayres Great Southern, Central Argentine and B.A. Western preference stocks.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1934-35	Week Ending	Traffics for Week: Total this year	Traffics for Week: Inc. or Dec. compared with 1934	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1934	Prices: Lowest 1934	Prices: Apl. 24, 1935	Yield % (See Note)
				£	£		£	£	£					
South & Central America.	Antofagasta (Chili) & Bolivia	830	21.4.35	11,270	— 3,110	16	195,820	209,300	— 13,480	Ord. Stk.	26¾	19	17½	Nil
	Argentine North Eastern	753	20.4.35	6,771	— 1,937	42	304,617	347,281	— 42,664	"	11	6⅞	7	Nil
	Argentine Transandine	111	—	—	—	—	—	—	—	A. Deb.	52	45	40	10
	Bolivar	174	Mar., 1935	7,100	— 600	13	19,550	20,650	— 1,100	6 p.c. Deb.	10	6½	10	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds.	13⅝	10⅞	13	3¹⁵/₁₆
	Buenos Ayres & Pacific	2,806	20.4.35	102,957	+ 5,823	42	3,244,077	3,584,233	— 340,156	Ord. Stk.	16½	8½	8½	Nil
	Buenos Ayres Central	190	7.4.35	$112,900	+ $19,900	40	$4,423,300	$4,287,300	+ $136,000	Mt. Deb.	23	10	21½	Nil
	Buenos Ayres Gt. Southern	5,085	20.4.35	147,664	+ 4,331	42	6,087,888	6,719,497	— 631,609	Ord. Stk.	35	22	23	Nil
	Buenos Ayres Western	1,930	20.4.35	46,127	— 14,165	42	1,875,926	2,231,468	— 355,542	"	27½	18½	19	Nil
	Central Argentine	3,700	20.4.35	138,808	+ 15,603	42	5,016,980	5,539,790	— 522,810	"	23	13½	16	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	14	7	7	Nil
	Cent. Uruguay of M. Video	273	20.4.35	9,797	— 4,204	42	582,903	689,525	— 106,622	Ord. Stk.	15½	8	6½	Nil
	Do. Eastern Extn.	311	20.4.35	1,631	— 1,516	42	80,496	139,683	— 59,187	—	—	—	—	—
	Do. Northern Extn.	185	20.4.35	1,414	— 870	42	45,192	77,981	— 32,789	—	—	—	—	—
	Do. Western Extn.	211	20.4.35	571	— 397	42	32,602	67,420	— 34,818	—	—	—	—	—
	Cordoba Central	1,218	20.4.35	22,350	— 2,450	42	1,181,370	1,396,240	— 214,870	Ord. Inc.	6	3	3	Nil
	Costa Rica	188	Feb., 1935	15,202	— 1,527	34	131,069	145,713	— 14,644	Stk.	30⅝	23½	31½	6⅝
	Dorada	70	Mar., 1935	11,900	+ 2,400	13	33,400	31,500	+ 1,900	1 Mt. Db.	103	95	104½	5¾
	Entre Rios	810	20.4.35	9,415	+ 169	42	516,098	519,635	— 3,537	Ord. Stk.	21½	12	12½	Nil
	Great Western of Brazil	1,082	20.4.35	6,000	— 300	16	156,400	151,200	+ 5,200	Ord. Sh.	⅞	⅝	½	Nil
	International of Cl. Amer.	794	Feb., 1935	$409,078	— $100,563	8	$838,555	$970,374	— $131,819	—	—	—	—	—
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	1st Pref.	1/-	1/-	½	Nil
	La Guaira & Caracas	22¾	Mar., 1935	4,040	+ 710	13	10,540	10,910	— 370	Stk.	12⅝	7⅝	8½	Nil
	Leopoldina	1,918	20.4.35	16,035	— 930	16	369,142	362,548	+ 6,594	Ord. Stk.	14⅝	7	5	Nil
	Mexican	483	14.4.35	$302,700	— $50,400	15	$3,523,800	$3,402,200	+ $121,600	"	3¼	1½	1½	Nil
	Midland of Uruguay	319	Mar., 1935	6,298	— 3,225	39	91,386	87,516	+ 3,870	"	1½	½	1½	Nil
	Nitrate	401	15.4.35	6,804	+ 72	15	41,922	55,337	— 13,415	Ord. Sh.	32²⁹/₃₂	51/-	2⅜	Nil
	Paraguay Central	274	20.4.35	6,240	+ 1,490	42	214,930	137,450	+ 77,480	Pr. Li. Stk.	84	67	65	9¼
	Peruvian Corporation	1,059	Mar., 1935	57,510	— 9,467	39	557,156	506,929	+ 50,227	Pref.	14½	8	7¼	Nil
	Salvador	100	13.4.35	¢31,500	+ ¢4,700	41	¢859,202	¢858,583	+ ¢619	Pr. Li. Db.	75	70	70	7⅛
	San Paulo	153½	14.4.35	33,840	+ 391	15	492,802	459,408	+ 33,394	Ord. Stk.	86	67	82	6¹⁵/₁₆
	Taltal	164	Mar., 1935	6,054	+ 2,019	39	26,885	22,447	+ 4,438	Ord. Sh.	2⅛	1¹⁵/₁₆	1 12⅝	6¹¹/₁
	United of Havana	1,365	20.4.35	24,418	— 7,293	42	985,201	813,831	+ 171,370	Ord. Stk.	6	2	3	Nil
	Uruguay Northern	73	Mar., 1935	828	— 327	39	9,835	10,546	— 711	Deb. Stk.	6¼	3	4½	Nil
Canada.	Canadian National	23,735	14.4.35	631,865	+ 17,061	15	8,936,951	8,745,967	+ 190,984	—	—	—	—	—
	Canadian Northern	—	—	—	—	—	—	—	— 4 p.c.	Perp. Dbs.	78¼	51½	59½	6¾
	Grand Trunk	—	—	—	—	—	—	—	4 p.c. Gar.	104½	97¼	101½	3¹⁵/₁₆
	Canadian Pacific	17,211	14.4.35	457,800	+ 25,200	15	6,200,000	6,365,000	— 165,000	Ord. Stk.	18⁵/₁₆	11¹/₁₆	11	Nil
India.†	Assam Bengal	1,329	16.3.35	25,725	— 5,344	50	1,367,696	1,228,765	+ 138,931	Ord. Stk.	88½	72	81½	3¹¹/₁₆
	Barsi Light	202	31.3.35	2,332*	— 1,605	52	135,395	149,257	— 13,882	Ord. Sh.	104½	98¾	99½	6
	Bengal & North Western	2,113	31.3.35	57,063	— 14,781	26	1,352,968	1,262,502	+ 90,466	Ord. Stk.	297½	262	295½	5⁷/₁₆
	Bengal Dooars & Extension	161	31.3.35	2,257	— 287	52	154,671	150,453	+ 4,218	"	125¼	124	124½	5⅝
	Bengal-Nagpur	3,269	16.3.35	128,775	— 773	50	5,740,564	5,349,889	+ 390,675	"	105½	96	102½	3⅞
	Bombay, Baroda & Cl. India	3,072	10.4.35	225,600	— 8,400	2	225,600	234,000	— 8,400	"	115	108½	114½	5¼
	Madras & South'n Mahratta	3,230	23.3.35	105,375	— 17,464	51	5,428,167	5,589,168	— 161,001	"	131	122¾	126½	7½
	Rohilkund & Kumaon	572	31.3.35	14,527	— 929	26	281,006	273,787	+ 7,219	"	263	250	286½	5⁹/₁₆
	South India	2,526	23.3.35	80,133	— 169	51	4,044,729	3,930,300	+ 114,429	"	119	115	117½	6¹⁵/₁₆
Various.	Beira-Umtali	204	Feb., 1935	59,631	+ 12,630	21	305,135	241,467	+ 63,668	—	—	—	—	—
	Bilbao River & Cantabrian	15	Feb., 1935	2,061	+ 365	8	4,310	3,243	+ 1,067	—	—	—	—	—
	Egyptian Delta	621	31.3.35	5,744	— 151	52	239,731	235,876	+ 3,855	Prf. Sh.	21³/₁₆	13¼	17⅝	5⅝
	Great Southern of Spain	104	13.4.35	2,346	— 636	15	28,558	33,055	— 4,497	Inc. Deb.	4	3½	3½	Nil
	Kenya & Uganda	1,625	Mar., 1935	243,384	+ 518	13	702,381	643,494	+ 58,887	—	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	B. Deb.	50	33	44½§	7⅞
	Mashonaland	913	Feb., 1935	105,711	+ 23,209	21	569,259	441,733	+ 127,526	1 Mg. Db.	101	91¾	102	4⅞
	Midland of W. Australia	277	Feb., 1935	11,096	— 1,869	34	110,221	108,715	+ 1,506	Inc. Deb.	100	93	96½	5⁵/₁₆
	Nigerian	1,905	2.3.35	36,962	— 2,728	48	1,855,831	1,679,905	+ 175,926	—	—	—	—	—
	Rhodesia	1,538	Feb., 1935	179,770	+ 39,317	21	930,997	754,591	+ 176,406	4 p.c. Db.	104⅞	97½	105	3¹⁵/₁₆
	South African	13,217	30.3.35	515,409	+ 47,600	52	26,961,242	23,744,265	+ 3,216,977	—	—	—	—	—
	Victorian	6,172	Dec., 1934	870,315	+ 101,872	26	4,751,974	4,536,635	+ 215,339	—	—	—	—	—
	Zafra & Huelva	112	Feb., 1935	10,521	+ 175	8	21,904	23,255	— 1,351	—	—	—	—	—

NOTE.—Yields are based on the approximate current prices and are within a fraction of 1/16

* Chaitri Fair 1934. † Receipts are calculated @ 1s. 6d. to the rupee. § ex dividend. Salvador receipts are in currency

The variation in Sterling value of the Argentine paper peso has lately been so great that the method of converting the sterling weekly receipts at the par rate of exchange has proved misleading, the amount being overestimated. The statements from July 1 onwards are based on the current rate of exchange and not on the par value

FINANCIAL AND OPERATING RESULTS OF THE BRITISH GROUP RAILWAYS IN 1934

An analysis of the accounts and statistics as shown in the published reports for the past year

THE accompanying tables and notes are compiled from the published accounts and statistics of the railway companies as set out in their annual reports. It is possible that differences in organisation or in methods of working or in the nature of the traffic dealt with limit the extent to which comparisons can be made between one railway company and another, and this point should be borne in mind in perusing the tables and the notes relating thereto. In arranging the tables, however, every endeavour has been made to set out the figures in such a way as to afford a fair comparison between the companies, but for the reason already given it may not always be possible to compare results between one company and another in the various units of measurement adopted.

It will be observed that a change has been made in Table 10. Maintenance of Rolling Stock, by the substitution of engine miles for train miles as one of the units of measurement of cost, and a corresponding adjustment has been made in the comparative figures of 1933.

Attention was directed a year ago to the improvement in railway earnings which took place in the second half of 1933, in consequence of which improvement the loss in the early part of the year was retrieved and the gross receipts for the year remained practically the same as in 1932.

In 1934 the published receipts of the group railways indicated an improvement of over £2,000,000 in railway revenue in the first quarter of the year and this improvement had risen to £3,500,000 by the end of June and £4,750,000 by the end of the third quarter. After that date the rate of increase slackened considerably and an increase of less than £300,000 was reported in the last thirteen weeks. The annual accounts, however, go to show that the weekly publication must have been on the conservative side as the aggregate revenue from the railway and all other businesses amounted to almost £172,000,000, an increase of nearly £7,000,000 on 1933, six-sevenths of the increase being contributed by the railway undertakings and one-seventh by all the other businesses combined.

Unfortunately, not only is no advance being shown in the present year upon 1934, but for the first twelve weeks there was actually a falling off in railway revenue of £349,000. Passenger traffic is still improving, but receipts from merchandise and coal have diminished by £499,000.

Further enterprise in many directions was manifested by the railway companies in 1934. Improved and more powerful locomotives have been introduced both by the L.M.S.R. and the L.N.E.R. The latter company's *Cock o' the North*, built for hauling heavy passenger trains on severe gradients in Scotland, was sent to France for the purpose of testing with satisfactory results.

New diesel railcar services have been introduced. The Great Western inaugurated a service from Birmingham to Cardiff at a booked speed of 50 m.p.h., and in the North Eastern area of the L.N.E.R. new interurban services with diesel railcars connecting York, Harrogate, Hull and Leeds were established. The L.M.S.R. has made a special feature of diesel shunting engines.

That the steam locomotive is by no means out of date was demonstrated by a test run between London and Leeds by the L.N.E. company at the end of November. On the outward journey the distance of 185·7 miles was covered in 2 hr. 31 min., and the return journey with a heavier load was performed in 2 hr. 37 min., a maximum speed of 100 m.p.h. being attained at one point. On March 5 of the present year another test was made between London and Newcastle, a distance of 268·2 miles. The outward run was completed in 3 hr. 57 min. notwithstanding that the train was brought to a dead stand just north of Doncaster. The return trip was done in 3 hr. 51 min., a record speed of 108 m.p.h. being attained, whilst a speed of over 100 m.p.h. was maintained for a continuous distance of more than twelve miles. It was with justifiable pride that the Chairman of the company, Mr. William Whitelaw, was able to announce to the shareholders at the annual meeting of the company on March 8 that it was hoped to inaugurate a daily service between London and Newcastle at the end of the summer performing the journey in four hours. This train will be known as the Silver Jubilee. Further progress has been made by the Southern Railway in the electrification of its system, embracing Sevenoaks, Lewes and Eastbourne.

So successful was the experiment with penny a mile return tickets, inaugurated in May, 1933, and known as "summer tickets," that these tickets are now regarded as a permanent institution, and as from January 1 this year have been renamed "monthly return tickets." An all-round reduction has been made in first class fares, which are below standard, and they are now only fifty per cent. in excess of the corresponding third class fares. Excursion traffic is still increasing, and additions have been made to the number of weekly Holiday Season tickets.

The L.N.E.R. train cruises to the North of England and Scotland have been repeated, and further developments have taken place in the provision of Holiday Camping Coaches. The Great Western repeated its air services which started in 1933, and the L.M.S. and Southern Companies have also experimented with air services.

On the freight side there has been a wonderful development of the Green Arrow quick transit and delivery service, and in the mechanisation of the companies' road transport fleets with the object of improving and extending the facilities for collection and delivery. The businesses of Carter Paterson and Pickfords have been acquired, and more containers are being provided to assist in the combined rail and road operations.

The number of express braked trains is being increased. The Great Western has improved its docks and shipping facilities in South Wales, whilst the Southern is pushing on rapidly with its extensions at Southampton and is completing its arrangements for the train ferry between Dover and Calais. The L.N.E.R. has opened a new fish dock at Grimsby and extended its quay at Parkeston, Harwich. New steamers have been placed by the L.M.S.R. on its Irish services. The power to make agreed charges granted under the Road and Rail Traffic Act, 1933, has been taken advantage of to a large extent, and over 120 applications have already been acceded to.

Agreement has been reached with the trade unions in regard to future procedure for the determination of differences in regard to rates of pay and conditions of service, and new machinery is being created to take the place of the Central and National Wages Boards.

Tables I and II.—Capital Expenditure

We now come to the actual figures set out in the companies' accounts. From Table I it will be observed that the aggregate capital expenditure amounts to over £1,153,000,000, nearly £3,750,000 having been added during the past year. The actual expenditure in 1934 was, however, only half the forecast. Once again the L.M.S. reduced its

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capital liabilities, and had a credit to capital of £420,000 on the transactions for the year. Expenditure on Way and Works amounted to £555,000, and on new carriages nearly £460,000 was spent, but there were credits to capital of £600,000 on locomotives and electric rail motor vehicles, of £716,000 on wagons and service vehicles, and £185,000 on manufacturing and repairing works and plant; £85,000 was spent on road vehicles, garages and stables, and £409,000 on subscriptions to other companies, but there was a credit of £94,000 for steamers displaced and of £356,000 from land and property sold. New office accommodation in London cost £105,000.

Of the £1,257,000 spent by the L.N.E.R., £376,000 was on the railway, including £228,000 on way and works, £60,000 on rolling stock, and £67,000 on plant and machinery at the shops. £146,000 was spent on road vehicles, garages, and stables, £502,000 on the new fish dock at Grimsby, and improvements at Hull and Parkeston, and £557,000 on subscriptions to other companies. £185,000 was realised from the sale of land.

Great Western capital expenditure did not fall far short of that of the L.N.E.R. and amounted to £1,180,000, including £272,000 on way and works, of which the largest item

(*Text continued on page* 815)

Table 1.—Aggregate Capital Expenditure to December 31, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934.	1933	1934.	1933	1934.	1933	1934.
LINES OPEN FOR TRAFFIC—	£	£	£	£	£	£	£	£
Capital expended	314,790,980	315,346,374	235,386,530	235,674,870	124,337,903	124,610,280	120,329,805	120,981,766
Miles of railway open for traffic (per Statistical Return Ia)	Miles. 6,942	Miles. 6,941	Miles. 6,371	Miles. 6,369	Miles. 3,787	Miles. 3,785	Miles. 2,165	Miles. 2,156
Average per mile	£ 45,346	£ 45,432	£ 36,947	£ 37,003	£ 32,833	£ 32,922	£ 55,580	£ 56,114
Lines not open for traffic	123,257	123,257	174,981	115,070	16,002	15,755	70,110	85,288
Lines leased and lines jointly leased other than "J" joint lines	—	—	—	—	10,337	10,337	26,591	26,591
Rolling-stock	59,745,924	58,888,090	46,873,544	46,933,040	21,089,180	21,123,081	17,284,485	17,284,485
Manufacturing and repairing works and plant	9,909,323	9,723,545	6,079,785	6,168,022	4,260,246	4,226,210	2,437,580	2,436,812
Total capital expended upon railway	384,569,484	384,081,266	288,514,840	288,891,002	149,713,668	149,985,663	140,148,571	140,814,942
Road vehicles	1,278,745	1,331,158	1,034,683	1,173,517	1,001,916	1,073,474	161,346	167,608
Horses	—	—	—	—	91,348	90,030	36,647	36,647
Garages, stables, &c.	1,509,184	1,542,477	623,274	630,620	243,523	250,399	168,474	168,474
Steamboats	3,021,981	2,928,373	2,967,405	2,965,431	414,965	414,965	2,843,457	2,843,457
Canals	6,001,649	6,004,328	1,310,368	1,310,204	772,123	753,739	77,700	77,700
Docks, harbours and wharves	10,104,560	10,050,636	25,447,025	25,949,002	21,153,389	21,145,633	12,626,469	13,183,981
Hotels	5,318,820	5,317,759	2,672,763	2,697,753	184,598	209,767	1,388,223	1,388,223
Electric power stations, &c.	1,773,967	1,671,793	250,055	249,690	516,919	516,949	688,892	688,892
Land, property, &c., not forming part of the railway or stations	15,168,487	15,019,318	12,039,167	11,712,395	3,156,242	3,171,538	5,787,951	5,739,914
Lines leased (Abstract "J")....	263,712	262,984	347,740	347,159	—	—	—	—
Lines jointly owned (Abstract "J")	6,776,429	6,763,633	10,492,982	10,473,738	319,609	319,086	335,850	335,781
Subscriptions to other companies	10,789,442	11,198,503	3,526,366	4,083,107	4,066,629	4,552,213	—	545,726
Special items—								
Limestone quarry	43,335	—	—	—	—	—	—	—
Northern Counties Railway, Ireland	6,102,445	6,130,561	—	—	—	—	—	—
County Donegal Railways Joint Committee	161,183	161,183	—	—	—	—	—	—
Stamp duty on capital	84,195	84,195	171,488	171,488	62,878	62,878	72,929	72,929
East London Railway Electrification	—	—	83,215	83,215	—	—	—	—
London Passenger Transport Board	—	—	584,970	584,970	—	—	—	—
Twenty-ton wagons	—	—	140,973	—	798,229	1,130,325	—	—
Parliamentary expenses	6,611	6,611	10,450	10,450	8,533	8,533	—	—
TOTAL CAPITAL EXPENDITURE	£452,974,229	£452,554,778	£350,076,791	£351,333,741	£182,504,569	£183,685,192	£164,336,509	£166,064,274

Table 2—Annual Capital Expenditure to December 31, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933 £	1934 £	1933 £	1934 £	1933 £	1934 £	1933 £	1934 £
LINES OPEN FOR TRAFFIC—								
Land and compensation ...	26,865	Cr. 8,008	31,157	Cr. 1,334	105,865	Cr. 47,958	Cr. 1,358	Cr. 13,342
Construction of way and stations, engineering, &c.	506,730	391,398	48,386	84,512	971,975	319,401	174,031	664,538
Law charges and Parliamentary expenses	Cr. 133	1,944	1,067	4,198	12,769	934	523	766
Transfers	19,438	170,059	745,544	200,964	Cr. 90,114	—	—	—
Total	552,900	555,393	826,154	288,340	1,000,495	272,377	173,196	651,962
LINES NOT OPEN FOR TRAFFIC—								
Land and compensation	Cr. 85	—	98	28	Cr. 23,448	Cr. 248	13,832	14,052
Construction of way and stations, engineering, &c.	Cr. 22,987	—	310,569	10,429	Cr. 269,465	—	—	626
Law charges and Parliamentary expenses	—	—	15	34	Cr. 1,843	—	470	499
Transfers....	—	—	Cr. 1,077,116	Cr. 70,402	—	—	—	—
Total	Cr. 23,072	—	Cr. 766,434	Cr. 59,911	Cr. 294,756	Cr. 248	14,302	15,177
Lines leased and lines jointly leased (other than "J" joint lines)—Total	—	—	—	—	Cr. 45	—	—	—
ROLLING-STOCK—								
Locomotives	Cr. 53,569	Cr. 594,804	1,290	729	—	—	—	—
Rail motor vehicles	Cr. 345,457	Cr. 5,874	7,138	7,017	—	22,349	—	—
Carriages....	Cr. 109,789	458,911	11,019	19,591	—	—	—	—
Wagons and vans	62,992	Cr. 542,279	15,872	22,393	Cr. 12,179	11,553	—	—
Service vehicles....	10,827	Cr. 173,788	19,019	9,766	—	—	—	—
Total	Cr. 434,996	Cr. 857,834	54,338	59,496	Cr. 12,179	33,902	—	—
MANUFACTURING AND REPAIRING WORKS AND PLANT—								
Land and buildings	—	—	Cr. 15,596	14,121	70,640	Cr. 19,709	—	Cr. 456
Plant and machinery	—	—	106,870	74,116	Cr. 1,907	Cr. 14,327	—	Cr. 312
Total	53,280	Cr. 185,777	91,274	88,237	68,733	Cr. 34,036	—	Cr. 768
Total capital expended upon railway	148,112	Cr. 488,218	205,332	376,162	762,247	271,995	187,498	666,371
Horses	—	—	—	—	Cr. 3,959	Cr. 1,318	—	—
Road vehicles	30,365	52,413	173,821	138,834	23,856	71,558	—	6,263
Garages, stables, &c.	948	33,293	10,088	7,346	5,981	6,875	—	—
Steamboats	8,405	Cr. 93,608	95,102	Cr. 1,974	Cr. 70,647	—	—	—
Canals	Cr. 3,409	2,679	Cr. 807	Cr. 163	Cr. 7,043	Cr 18,384	—	—
Docks, harbours and wharves....	Cr. 70,827	Cr. 53,924	259,928	501,976	43,846	Cr. 7,755	1,084,041	557,512
Hotels	54,274	Cr. 1,060	22,237	24,990	Cr. 62	25,169	—	—
Electric power, stations, &c.	Cr. 208,117	Cr. 102,174	6,035	Cr. 365	92	30	—	—
Limestone quarry	—	Cr. 43,335	—	—	—	—	—	—
Land, property, &c., not forming part of the railway or stations	Cr. 88,066	Cr. 149,169	Cr. 42,205	Cr. 326,772	Cr. 29,091	15,296	Cr. 68,255	Cr. 48,037
Lines leased—Total	58	Cr. 727	Cr. 4,692	Cr. 580	—	—	—	—
Lines jointly owned—Total	Cr. 14,255	Cr. 12,797	Cr. 17,062	Cr. 19,245	Cr. 86	Cr. 523	Cr. 5,928	Cr. 70
Subscriptions to other companies	10,184	409,060	19,371	556,741	Cr. 109,960	485,584	—	545,726
Stamp duty on capital....	—	—	—	—	6,877	—	—	—
Northern Counties Railway	68,427	28,116	—	—	—	—	—	—
County Donegal Railways Joint Committee	551	—	—	—	—	—	—	—
Twenty-ton wagons	—	—	—	—	798,229	332,096	—	—
TOTAL CAPITAL EXPENDITURE	Cr. 63,350	Cr. 419,451	727,148	1,256,950	1,420,280	1,180,623	1,197,356	1,727,765

Table 3—Revenue Receipts and Expenditure of the whole undertaking, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
RAILWAY—	1933	1934	1933	1934	1933	1934	1933	1934
Gross Receipts (per Account No. 10)	£58,185,439	£60,571,587	£42,687,504	£44,913,974	£24,572,250	£25,289,629	£19,845,824	£20,368,894
Per cent. on capital expended	15·13	15·77	14·80	15·55	16·41	16·86	14·16	14·47
Expenditure (per Account No. 10)	£48,223,760	£49,563,211	£35,211,321	£36,932,444	£20,102,245	£20,350,476	£15,817,952	£16,070,479
Per cent. of gross receipts	82·88	81·83	82·49	82·23	81·81	80·47	79·70	78·90
Net receipts (per Account No. 10)	£9,961,679	£11,008,376	£7,476,183	£7,981,530	£4,470,005	£4,939,153	£4,027,872	£4,298,415
Per cent. on capital expended	2·59	2·87	2·59	2·76	2·99	3·29	2·87	3·05
ROAD TRANSPORT—								
Gross receipts (per Account No. 11)	£315,798	£349,460	£136,952	£171,123	£65,439	£67,658	£20,395	£21,156
Expenditure (per Account No. 11)	£267,800	£290,751	£122,130	£144,350	£52,847	£56,574	£14,856	£14,865
Per cent. of gross receipts	84·80	83·20	89·19	84·35	80·76	83·62	72·84	70·26
Net receipts or expenditure (per Account No. 11)	£47,998	£58,709	£14,822	£26,773	£12,592	£11,084	£5,539	£6,291
STEAMBOATS—								
Gross receipts (per Account No. 12)	£1,263,712	£1,321,841	£652,685	£699,871	£296,896	£304,731	£1,132,592	£1,124,369
Per cent. on capital expended	41·82	45·14	22·00	23·60	71·55	73·44	39·83	39·54
Expenditure (per Account No. 12)	£1,080,059	£1,093,264	£747,999	£797,409	£294,283	£298,665	£1,014,268	£1,002,140
Per cent. of gross receipts	85·47	82·71	114·60	113·94	99·12	98·01	89·55	89·13
Net receipts or expenditure (per Account No. 12)	£183,653	£228,577	loss £95,314	loss £97,538	£2,613	£6,066	£118,324	£122,229
Per cent. on capital expended	6·08	7·81	—	—	0·63	1·46	4·16	4·30
CANALS—								
Gross receipts (per Account No. 13)	£116,273	£124,812	£35,316	£36,052	£14,149	£14,094	£2,452	£1,601
Per cent. on capital expended	1·94	2·08	2·70	2·75	1·83	1·87	3·16	2·06
Expenditure (per Account No. 13)	£126,037	£126,200	£48,526	£45,707	£34,696	£37,373	£1,246	£1,244
Per cent. of gross receipts	108	101	137	127	245	265	51	78
Net receipts or expenditure (per Account No. 13)	loss £9,764	loss £1,388	loss £13,210	loss £9,655	loss £20,547	loss £23,279	£1,206	£357
Per cent. on capital expended	—	—	—	—	—	—	1·55	0·46
DOCKS, HARBOURS AND WHARVES—								
Gross receipts (per Account No. 14)	£784,608	£871,806	£2,520,988	£2,647,193	£1,971,439	£1,974,026	£1,018,648	£1,035,228
Per cent. on capital expended	7·76	8·67	9·91	10·20	9·32	9·34	8·07	7·85
Expenditure (per Account No. 14)	£849,487	£886,165	£2,425,399	£2,495,851	£1,905,188	£1,885,133	£725,790	£743,883
Per cent. of gross receipts	108·27	101·65	96·21	94·28	96·64	95·50	71·25	71·86
Net receipts (per Account No. 14)	loss £64,879	loss £14,359	£95,589	£151,342	£66,251	£88,893	£292,858	£291,345
Per cent. on capital expended	—	—	0·38	0·58	0·31	0·42	2·32	2·21
HOTELS AND REFRESHMENT ROOMS AND CARS WHERE CATERING IS CARRIED ON BY THE COMPANY—								
Gross receipts (per Account No. 15)	£2,636,945	£2,833,028	£1,667,924	£1,756,465	£637,826	£666,849	£104,263	£108,772
Per cent. on capital expended	49·58	53·27	62·40	65·11	346	318	7·51	7·84
Expenditure (per Account No. 15)	£2,350,237	£2,469,853	£1,582,244	£1,631,140	£560,963	£591,381	£104,851	£112,121
Per cent. of gross receipts	89·13	87·18	94·86	92·86	87·95	88·68	100·56	103·05
Net receipts (per Account No. 15)	£286,708	£363,175	£85,680	£125,325	£76,863	£75,468	loss £588	loss £3,349
Per cent. on capital expended	5·39	6·83	3·21	4·65	42	36	—	—

(Continued on next page)

Table 3—Revenue Receipts and Expenditure of the whole undertaking, Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
COLLECTION AND DELIVERY OF PARCELS AND GOODS—	1933	1934	1933	1934	1933	1934	1933	1934
Gross Receipts (per Account No. 16)	£1,982,093	£2,096,272	£1,087,904	£1,151,577	£863,992	£961,867	£474,242	£492,457
Expenditure (per Account No. 16)	£2,283,399	£2,478,978	£1,358,544	£1,474,267	£1,012,331	£1,085,101	£413,722	£449,601
Per cent. of gross receipts	115·20	118·25	124·88	128·02	117·17	112·81	87·25	91·29
Net receipts (per account No. 16)	loss £301,306	loss £382,706	loss £270,640	loss £322,690	loss £148,339	loss £123,234	£60,520	£42,856
AIR TRANSPORT—								
Gross receipts (per Account No. 19)	—	£2,904	—	—	£1,664	£1,528	—	£272
Expenditure (per Account No. 19)	—	£10,148	—	—	£8,190	£6,678	—	£5,042
Per cent. of gross receipts	—	349	—	—	492	437	—	1,854
Loss (per Account No. 17)	—	loss £7,244	—	—	loss £6,526	loss £5,150	—	loss £4,770
CAPITAL EXPENDED	£452,974,229	£452,554,778	£350,076,791	£351,333,741	£182,504,569	£183,685,192	£164,336,509	£166,064,274
TOTAL—								
Gross receipts (per Account No. 8)	£65,291,119*	£68,180,325*	£48,789,274	£51,376,257	£28,423,656	£29,280,382	£22,598,417	£23,152,749
Per cent. on capital expended	14·41	15·07	13·94	14·62	15·57	15·94	13·75	13·94
Expenditure (per Account No. 8)	£55,185,091*	£56,924,563*	£41,496,164	£43,521,169	£23,970,743	£24,311,381	£18,092,685	£18,399,375
Per cent. of gross receipts	84·52	83·49	85·05	84·71	84·33	83·03	80·06	79·47
Net receipts (per Account No. 8)	£10,106,028*	£11,255,762*	£7,293,110	£7,855,088	£4,452,913	£4,969,001	£4,505,732	£4,753,374
Per cent. on capital expended	2·23	2·49	2·08	2·24	2·44	2·71	2·74	2·86

* Including limestone quarry.

Table 4—Receipts in Respect of Railway Working (per Account No. 10), Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
PASSENGER TRAIN TRAFFIC—	1933	1934	1933	1934	1933	1934	1933	1934
Passengers, including season and workmen's tickets	£17,808,023	£18,236,722	£11,443,063	£11,803,321	£7,513,470	£7,603,839	£12,635,596	£12,917,221
Per cent. of traffic receipts	30·91	30·41	27·04	26·50	30·84	30·33	64·40	64·16
Mails, parcels under 2 cwt., parcels post excess luggage, and other merchandise, per passenger train	£6,472,846	£6,503,243	£4,327,708	£4,357,914	£2,963,343	£2,965,301	£2,232,080	£2,247,029
Per cent. of traffic receipts	11·23	10·84	10·23	9·79	12·16	11·83	11·37	11·16
Total passenger train receipts	£24,280,869	£24,739,965	£15,770,771	£16,161,235	£10,476,813	£10,569,140	£14,867,676	£15,164,250
Per cent. of traffic receipts	42·14	41·25	37·27	36·29	43·00	42·16	75·77	75·32
GOODS TRAIN TRAFFIC—								
Merchandise (excluding classes 1–6)	£16,493,095	£17,320,421	£11,087,835	£11,540,728	£6,589,953	£6,885,429	£2,454,650	£2,534,020
Per cent. of traffic receipts	28·62	28·88	26·20	25·91	27·05	27·47	12·51	12·59
Minerals and merchandise (Classes 1–6)	£4,665,001	£5,308,221	£3,946,736	£4,574,763	£1,976,626	£2,221,698	£665,071	£751,944
Per cent. of traffic receipts	8·10	8·85	9·33	10·27	8·11	8·86	3·39	3·73
Coal, coke and patent fuel	£11,599,364	£12,039,242	£11,138,934	£11,904,947	£5,113,520	£5,192,238	£1,568,947	£1,617,712
Per cent. of traffic receipts	20·13	20·07	26·32	26·73	20·99	20·71	8·00	8·04
Live Stock	£582,702	£567,712	£374,004	£356,815	£208,312	£201,020	£64,266	£64,000
Per cent. of traffic receipts	1·01	0·95	0·88	0·80	0·85	0·80	0·33	0·32
Total goods train receipts	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676
Per cent. of traffic receipts	57·86	58·75	62·73	63·71	57·00	57·84	24·23	24·68
TOTAL TRAFFIC RECEIPTS	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
Miscellaneous	£564,408	£596,026	£369,224	£375,487	£207,026	£220,104	£225,214	£236,968
TOTAL RECEIPTS IN RESPECT OF RAILWAY WORKING	£58,185,439	£60,571,587	£42,687,504	£44,913,975	£24,572,250	£25,289,629	£19,845,824	£20,368,894

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Table 5—Number of and Receipts from Passengers and Average Receipt per Passenger, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
ORDINARY PASSENGERS—	1933	1934	1933	1934	1933	1934	1933	1934
First class—								
Number	3,367,907	3,391,324	2,249,511	2,311,144	887,953	904,146	3,459,473	3,525,176
Receipts	£1,100,835	£1,098,210	£681,892	£710,165	£409,652	£421,483	£775,030	£773,862
Average per passenger	6/6·45	6/5·72	6/0·75	6/1·75	9/2·72	9/3·88	4/5·77	4/4·69
Second class—								
Number	8,108	8,516	1,179,911	1,191,097	—	—	362,886	374,885
Receipts	£121	£124	£87,496	£94,296	—	—	£273,250	£277,768
Average per passenger	3·58d.	3·49d.	1/5·80	1/7·00	—	—	15/0·72	14/9·83
Third class—								
Number	207,518,322	216,330,539	142,733,431	147,001,092	82,977,999	83,194,693	148,864,900	153,061,419
Receipts	£13,265,768	£13,651,531	£8,349,257	£8,603,609	£6,210,900	£6,266,852	£7,871,944	£8,048,996
Average per passenger	1/3·34	1/3·15	1/2·04	1/2·05	1/5·96	1/6·08	1/0·69	1/0·62
WORKMEN'S TICKETS—								
Number	78,008,510	82,580,314	40,737,354	42,532,541	24,686,776	26,714,202	60,581,206	65,102,992
Receipts	£1,058,874	£1,136,017	£607,214	£640,865	£295,010	£319,543	£922,366	£979,009
Average per passenger	3·26d.	3·30d.	3·58d.	3·62d.	2·87d.	2·87d.	3·65d.	3·61d.
TOTAL—								
Number	288,902,847	302,310,693	186,900,207	193,035,874	108,552,728	110,813,041	213,268,465	222,064,472
Receipts	£15,425,598	£15,885,882	£9,725,859	£10,048,935	£6,915,562	£7,007,878	£9,842,590	£10,079,635
Average per passenger	1/0·81	1/0·61	1/0·49	1/0·49	1/3·29	1/3·18	11·08d.	10·89d.
SEASON TICKETS—								
First class—								
Number	21,887	21,228	16,616	15,680	3,939	3,817	19,112	19,274
Receipts	£630,324	£578,935	£364,138	£347,004	£107,421	£101,526	£530,025	£530,901
Second class—								
Number	412	406	33,255	32,241	—	—	—	—
Receipts	£1,927	£1,939	£395,129	£406,548	—	—	—	—
Third class—								
Number	195,219	195,682	103,877	105,493	62,759	63,104	165,986	173,855
Receipts	£1,750,174	£1,769,966	£957,937	£1,000,833	£490,487	£494,435	£2,262,981	£2,306,685
TOTAL—								
Number	217,518	217,316	153,748	153,414	66,698	66,921	185,098	193,129
Receipts	£2,382,425	£2,350,840	£1,717,204	£1,754,385	£597,908	£595,961	£2,793,006	£2,837,586
TOTAL RECEIPTS FROM PASSENGERS, INCLUDING SEASON TICKETS	£17,808,023	£18,236,722	£11,443,062	£11,803,321	£7,513,470	£7,603,839	£12,635,596	£12,917,221

Table 6—Tonnage, Receipts and Average Receipt per ton from Merchandise (excluding Classes 1-6), Minerals and Merchandise (Classes 1-6), and Coal, Coke and Patent Fuel, and Total Goods Train Receipts, Years 1933 and 1934

	L.M.S.R.		L.N.E.R		G.W.R		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
MERCHANDISE (excluding classes 1-6)—								
Tonnage	24,513,253	26,336,358	18,830,751	20,005,209	11,374,627	12,060,444	4,608,770	4,775,327
Receipts	£16,493,095	£17,320,421	£11,087,835	£11,540,728	£6,589,953	£6,885,429	£2,454,650	£2,534,020
Average per ton	13/5·48d.	13/1·84d.	11/9·32d.	11/6·45d.	11/7·05d.	11/5·02d.	10/7·82d.	10/7·36d.
Percentage of total goods train receipts	49·47	49·16	41·76	40·67	47·45	47·49	51·65	51·01
MINERALS AND MERCHANDISE (classes 1–6)—								
Tonnage	21,743,949	25,896,544	19,759,495	23,805,769	8,957,262	10,042,203	3,502,222	3,773,429
Receipts	£4,665,001	£5,308,222	£3,946,736	£4,574,763	£1,976,626	£2,221,698	£665,071	£751,944
Average per ton	4/3·49d.	4/1·19d.	3/11·94d.	3/10·12d.	4/4·96d.	4/5·10d.	3/9·58d.	3/11·83d.
Percentage of total goods train receipts	13·99	15·06	14·87	16·12	14·23	15·32	13·99	15·14
COAL, COKE AND PATENT FUEL—								
Tonnage	69,575,451	72,175,679	75,390,906	80,449,543	41,195,434	42,517,245	8,121,914	8,300,118
Receipts	£11,599,364	£12,039,242	£11,138,934	£11,904,947	£5,113,520	£5,192,238	£1,568,947	£1,617,712
Average per ton	3/4·01d.	3/4·03d.	2/11·46d.	2/11·52d.	2/5·79d.	2/5·31d.	3/10·36d.	3/10·78d.
Percentage of total goods train receipts	34·79	34·17	41·96	41·95	36·82	35·81	33·01	32·56
TOTAL—								
Tonnage	115,832,653	124,408,581	113,981,152	124,260,521	61,527,323	64,619,892	16,232,906	16,848,874
Receipts	£32,757,460	£34,667,885	£26,173,505	£28,020,438	£13,680,099	£14,299,365	£4,688,668	£4,903,676
Average per ton	5/7·87d.	5/6·88d.	4/7·11d.	4/6·12d.	4/5·36d.	4/5·11d.	5/9·32d.	5/9·85d.
LIVE STOCK—								
Number	6,839,116	6,606,105	4,708,650	4,465,022	2,253,296	2,257,794	727,375	686,904
Receipts	£582,702	£567,712	£374,005	£356,815	£208,312	£201,020	£64,266	£64,000
Percentage of total goods train receipts	1·75	1·61	1·41	1·26	1·50	1·38	1·35	1·29
TOTAL GOODS TRAIN RECEIPTS	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676

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Table 7—Originating Freight Traffic, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Merchandise (excluding Classes 1–6)	15,749,361	16,899,729	14,151,075	15,028,795	7,938,024	8,353,420	2,883,090	2,958,459
Minerals and merchandise (Classes 1–6)	17,452,720	20,745,885	16,125,783	19,540,566	6,282,621	7,088,149	1,780,212	1,932,768
Coal, coke and patent fuel	56,583,801	58,793,762	65,644,474	70,602,205	34,141,676	34,911,708	3,291,070	3,534,648
Total	89,785,882	96,439,376	95,921,332	105,171,566	48,362,321	50,353,277	7,954,372	8,425,875
Principal Traffics—								
Bricks, blocks and tiles	1,828,428	2,151,567	2,361,970	2,499,072	435,913	480,880	213,387	218,946
Cement and lime	1,053,100	1,098,099	633,915	754,041	505,182	505,743	241,929	255,399
Creosote, tar and pitch	704,886	830,194	532,481	593,313	171,050	170,652	147,396	142,883
Grain, flour and milling offals....	845,085	730,006	1,607,778	1,447,946	1,087,382	1,076,873	265,072	227,050
Gravel and sand	844,782	1,002,300	545,561	576,469	157,440	167,075	152,899	234,223
Iron and steel blooms, billets, ingots, &c.	859,397	1,104,786	1,021,144	1,403,470	861,167	965,320	1,975	3,402
Iron and steel scrap	1,643,807	1,982,744	1,192,762	1,407,288	690,756	792,202	108,984	135,710
Iron and steel, other descriptions	2,088,039	2,680,130	1,740,963	2,317,309	1,018,558	1,280,635	28,422	33,687
Iron ore	2,651,019	3,783,781	2,870,708	4,496,161	506,015	785,368	3,228	1,439
Iron, pig	1,150,463	1,472,244	750,095	823,528	341,577	407,802	889	1,350
Limestone and chalk	1,713,703	2,068,973	960,104	1,389,050	330,330	386,515	54,986	54,842
Manure, packed	224,219	222,353	621,700	618,354	95,109	107,193	128,342	124,262
Oil cake	325,408	378,755	388,171	413,994	116,880	120,266	73,627	76,737
Road making and road repairing material	2,046,591	1,944,651	1,083,363	822,653	1,036,078	1,057,901	277,993	328,133
Round timber, including mining	305,058	344,002	982,668	1,051,706	769,910	828,414	46,470	46,943
Timber, other than round	688,606	741,187	868,443	870,630	196,518	211,894	104,717	116,323
Vegetables	328,701	326,648	1,996,829	2,079,832	121,473	135,490	76,940	53,180
Live Stock—	Heads	Heads	Heads	Heads	Heads	Heads	Heads	Heads
Horses	12,185	12,325	6,402	5,118	15,217	14,922	4,330	4,195
Cattle	1,042,453	1,034,132	832,197	838,784	345,891	356,441	111,439	109,975
Calves	98,148	100,318	100,124	102,738	90,239	82,758	17,027	14,041
Sheep and lambs	3,479,474	3,144,028	2,157,000	2,023,097	863,129	744,005	401,111	325,561
Pigs	357,649	413,496	593,814	573,416	301,572	385,953	104,779	147,271
Miscellaneous	341	250	1,217	568	60	65	9	87
Total	4,990,250	4,704,549	3,690,754	3,543,721	1,616,108	1,584,144	638,695	601,130

Table 8—Expenditure in respect of Railway Working, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
A.—Maintenance of Way and Works.	£6,428,465	£6,707,727	£4,460,499	£4,655,444	£2,961,240	£3,029,388	£2,938,112	£3,016,712
Per cent. of traffic expenditure	13·34	13·55	12·61	12·55	14·78	14·94	18·60	18·81
B.—Maintenance of Rolling-Stock.	£7,703,332	£7,981,140	£6,842,932	£8,063,919	£3,085,352	£3,135,572	£2,316,792	£2,330,286
Per cent. of capital expenditure on rolling-stock.	12·89	13·55	14·60	17·18	14·63	14·84	13·40	13·48
Per cent. of traffic expenditure	15·98	16·12	19·34	21·74	15·40	15·46	14·67	14·53
C.—Locomotive Running Expenses.	£11,611,069	£11,937,447	£8,706,913	£8,975,260	£4,820,180	£4,862,262	£3,954,015	£4,018,684
Per cent. of traffic expenditure.	24·09	24·11	24·61	24·20	24·06	23·98	25·03	25·05
D.—Traffic Expenses	£17,652,114	£18,011,976	£12,256,344	£12,316,669	£6,967,538	£7,049,287	£4,853,582	£4,944,982
Per cent. of traffic expenditure.	36·63	36·38	34·65	33·20	34·77	34·76	30·72	30·83
E.—General Charges	£2,096,322	£2,124,954	£1,267,592	£1,261,172	£911,962	£930,026	£730,986	£737,460
Per cent. of traffic expenditure.	4·35	4·29	3·58	3·40	4·55	4·59	4·63	4·60
Law Charges	£64,251	£63,942	£40,170	£42,438	£24,487	£27,735	£25,305	£25,357
Per cent. of traffic expenditure.	0·13	0·13	0·12	0·11	0·12	0·14	0·16	0·16
Parliamentary Expenses	£10,668	£10,813	£3,194	£968	£1,059	£1,440	£2,000	£2,000
Per cent. of traffic expenditure.	0·02	0·02	0·01	—	0·01	0·01	0·01	0·01
Compensation	£312,978	£339,108	£212,097	£205,607	£119,202	£119,806	£86,485	£78,730
Per cent. of traffic expenditure.	0·65	0·68	0·60	0·56	0·59	0·59	0·55	0·49
Rates Tribunal	£4,330	£3,954	£3,313	£3,366	£2,209	£2,109	£1,930	£1,787
Per cent. of traffic expenditure	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
Rates, Taxes and Tithe Rent Charges	£476,383	£484,316	£337,938	£335,289	£264,811	£266,089	£179,754	£179,662
Per cent. of traffic expenditure	0·99	0·98	0·96	0·90	1·32	1·31	1·14	1·12
Railway Freight Rebates Fund	£1,420,404	£1,398,861	£1,005,710	£977,618	£801,507	£781,988	£557,007	£556,994
Per cent. of traffic expenditure	2·95	2·82	2·84	2·64	4·00	3·85	3·53	3·47
National Insurance Acts	£431,763	£463,726	£354,770	£382,394	£211,028	£214,653	£128,421	£139,649
Per cent. of traffic expenditure	0·90	0·93	1·00	1·03	1·05	1·06	0·81	0·87
G.—Running Powers (Balance)	Cr. £20,956	Cr. £11,671	Cr. £116,035	Cr. £124,641	Cr. £132,466	Cr. £142,868	£21,936	£8,212
Per cent. of traffic expenditure	0·04	0·02	0·33	0·25	0·66	0·70	0·14	0·05
Total Traffic Expenditure	£48,191,122	£49,516,295	£35,375,437	£37,095,503	£20,038,110	£20,277,498	£15,796,325	£16,040,515
Per cent. on traffic receipts	82·82	82·56	83·59	83·29	82·24	80·89	80·51	79·68
Per train-mile	6s. 8·54d.	6s. 6·97d.	6s. 10·24d.	6s. 10·39d.	6s. 6·26d.	6s. 4·79d.	4s. 10·64d.	4s. 10·71d.
H.—Mileage Demurrage and Wagon Hire (Balance)	Cr. £15,633	Cr. £1,913	Cr. £207,157	Cr. £208,062	£63,511	£71,818	£16,144	£24,691
Miscellaneous	£48,271	£48,830	£43,041	£45,003	£624	£1,160	£5,483	£5,272
Total expenditure	£48,223,760	£49,563,212	£35,211,321	£36,932,444	£20,102,245	£20,350,476	£15,817,952	£16,070,478
Per cent. on receipts in respect of railway working	82·88	81·83	82·49	82·23	81·81	80·47	79·70	78·90
Per train-mile	6s. 8·59d.	6s. 7·04d.	6s. 9·85d.	6s. 10·03d.	6s. 6·51d.	6s. 5·07d.	4s. 10·72d.	4s. 10·82d.

Table 9—Maintenance and Renewal of Way and Works, Abstract "A," Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Miles of line maintained reduced to single track (including sidings) (per Statistical Return X)	19,193	19,182	16,321	16,302	8,665	8,666	5,333	5,316
Train mileage (per Statistical Return XIIB)	143,612,725	150,486,422	103,240,137	108,053,106	61,452,040	63,371,714	64,650,997	65,574,345
Traffic receipts (per Account No. 10)	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
SUPERINTENDENCE (SALARIES AND OFFICE EXPENSES)	£455,151	£471,138	£310,798	£315,879	£179,676	£182,815	£167,734	£171,344
Per mile of single track	£23·71	£24·56	£19·04	£19·38	£20·74	£21·10	£31·45	£32·23
Per train-mile	0·76d.	0·75d.	0·72d.	0·70d.	0·70d.	0·69d.	0·62d.	0·63d.
MAINTENANCE OF ROADS, BRIDGES AND WORKS	£801,543	£810,613	£528,588	£560,252	£449,897	£409,080	£318,080	£314,097
Per mile of single track	£41·76	£42·26	£32·39	£34·37	£51·92	£47·21	£59·64	£59·09
Per train-mile	1·34d.	1·29d.	1·23d.	1·24d.	1·76d.	1·55d.	1·18d.	1·15d.
MAINTENANCE OF PERMANENT WAY—								
COMPLETE RENEWALS—								
Mileage of single track renewed (per Statistical Return X)	522	531	192	225	252	266	144	175
Wages	£280,075	£279,068	£111,056	£136,734	£132,859	£134,467	£93,529	£111,451
Per mile of single track	£14·59	£14·55	£6·80	£8·39	£15·34	£15·52	£17·54	£20·97
Per mile of single track renewed	£537	£525	£578	£608	£527	£505	£650	£637
Per train-mile	0·47d.	0·44d.	0·26d.	0·30d.	0·52d.	0·51d.	0·35d.	0·41d.
Materials	£890,258	£807,597	£308,870	£344,039	£457,964	£432,543	£298,959	£366,930
Per mile of single track	£46·39	£42·10	£18·93	£21·11	£52·85	£49·91	£56·06	£69·02
Per mile of single track renewed	£1,705	£1,521	£1,609	£1,529	£1,817	£1,626	£2,076	£2,097
Per train-mile	1·48d.	1·29d.	0·72d.	0·77d.	1·79d.	1·64d.	1·11d.	1·34d.
Engine power and wagon repairs	£70,421	£67,227	£24,864	£23,372	£22,807	£22,492	£21,236	£28,544
Per mile of single track	£3·67	£3·50	£1·52	£1·43	£2·63	£2·59	£3·98	£5·37
Per mile of single track renewed	£135	£127	£130	£104	£91	£85	£147	£163
Per train-mile	0·12d.	0·11d.	0·06d.	0·05d.	0·09d.	0·08d.	0·08d.	0·10d.
Total	£1,240,754	£1,153,892	£444,790	£504,145	£613,630	£589,502	£413,724	£506,925
Per mile of single track	£64·65	£60·15	£27·25	£30·93	£70·82	£68·02	£77·58	£95·36
Per mile of single track renewed	£2,377	£2,173	£2,317	£2,241	£2,435	£2,216	£2,873	£2,897
Per train-mile	2·07d.	1·84d.	1·04d.	1·12d.	2·40d.	2·23d.	1·54d.	1·85d.
Percentage of capital expenditure on way and works (per Account No. 4)	0·39	0·37	0·19	0·21	0·49	0·47	0·34	0·42
REPAIRS AND PARTIAL RENEWALS—								
Wages	£2,012,018	£2,060,263	£1,538,081	£1,552,329	£956,856	£913,736	£717,574	£754,515
Per mile of single track	£104·83	£107·42	£94·24	£95·23	£110·43	£105·44	£134·55	£141·93
Per train-mile	3·36d.	3·29d.	3·57d.	3·45d.	3·74d.	3·46d.	2·66d.	2·76d.
Materials	£606,400	£646,122	£441,638	£419,985	£181,810	£171,078	£317,693	£344,854
Per mile of single track	£31·60	£33·68	£27·06	£25·76	£20·98	£19·74	£59·57	£64·87
Per train-mile	1·01d.	1·03d.	1·03d.	0·93d.	0·71d.	0·65d.	1·18d.	1·26d.
Engine power and wagon repairs	£99,632	£100,433	£51,137	£50,579	£17,417	£14,948	£26,551	£27,892
Per mile of single track	£5·19	£5·23	£3·13	£3·10	£2·01	£1·72	£4·98	£5·25
Per train-mile	0·17d.	0·16d.	0·12d.	0·11d.	0·07d.	0·06d.	0·10d.	0·10d.

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(*Continued from page* 806)

was £180,000 on station improvements and widenings at Bristol. Other large items of expenditure were £485,000 on subscriptions to other companies and £332,000 on 20-ton wagons.

Capital expenditure on the Southern, amounting to £1,727,000, can be largely summed up in three principal items, viz., electrification £644,000, Southampton Docks £550,000, and subscriptions to other companies £545,000.

Prospective capital expenditure in 1935 is substantially less than a year ago. Nearly £2,000,000 is forecast on the L.M.S.R., of which half is in respect of way and works. Locomotives will absorb £38,000, carriages and rail motor vehicles £211,000, and wagons £278,000. £77,000 is earmarked for hotel improvements, £78,000 for road vehicles, garages, and stables, and £130,000 for contributions to road transport.

The L.N.E.R. proposes to spend £820,000, including £346,600 on way and works, £152,000 on rolling stock, of which £90,000 is for electric vehicles on Tyneside, £198,000 on docks, principally in connection with the new fish dock at Grimsby, and £50,000 on steamboats.

The G.W.R. programme amounts to £475,000, including £116,000 on station improvements and widenings at Bristol, £67,000 on way and works at other places, £37,000 on diesel railcars, £57,000 on road vehicles, £115,000 on the modernisation of the docks in South Wales and £64,000 on the Manor House Hotel on Dartmoor.

The Southern is spending £1,340,000, viz., £600,000 on electrification, £175,000 on way and works, and £565,000 on the Southampton Docks.

Table III.—Revenue Receipts and Expenditure of the Whole Undertaking

It will be seen from this table that all companies have effected reductions in the ratio of expenditure to receipts so far as railway working is concerned, and the net receipts have improved as follows:—

	1934	1933	Increase	Increase per cent.
	£	£	£	
L.M.S.R. ...	11,008,376	9,961,679	1,046,697	10·51
L.N.E.R. ...	7,981,530	7,476,183	505,347	6 76
G.W.R. ...	4,939,153	4,470,005	469,148	10·50
S.R.	4,298,415	4,027,872	270,543	6·72
Total ...	28,227,474	25,935,739	2,291,735	8·84

In the "other businesses" it will be seen that the L.M.S.R.

(*Text continued on page* 818)

Table 9—Maintenance and Renewal of Way and Works, Abstract "A," Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
REPAIRS AND PARTIAL RENEWALS—*continued*								
Total	£2,718,050	£2,806,818	£2,030,856	£2,022,893	£1,156,083	£1,099,762	£1,061,818	£1,127,261
Per mile of single track	£141·62	£146·33	£124·43	£124·09	£133·42	£126·90	£199·10	£212·05
Per train-mile	4·54d.	4·48d.	4·72d.	4·49d.	4·52d.	4·17d.	3·94d.	4·12d.
MAINTENANCE OF SIGNALLING	£628,676	£614,506	£520,140	£529,216	£302,270	£306,893	£236,077	£260,083
Per mile of single track	£32·76	£32·04	£31·87	£32·46	£34·88	£35·41	£44·27	£48·92
Per train-mile	1·05d.	0·98d.	1·21d.	1·18d.	1·18d.	1·16d.	0·88d.	0·95d.
MAINTENANCE OF TELEGRAPHS AND TELEPHONES	£159,926	£159,866	£140,442	£136,992	£120,914	£96,325	£57,310	£94,515
Per mile of single track	£8·33	£8·33	£8·61	£8·40	£13·95	£11·12	£10·74	£17·78
Per train-mile	0·27d.	0·26d.	0·33d.	0·31d.	0·47d.	0·36d.	0·21d.	0·35d.
MAINTENANCE OF ELECTRIC TRACK EQUIPMENT	£25,030	£27,670	£13,344	£12,079	£2,484	£1,510	£56,930	£57,987
Per mile of single track	£1·30	£1·44	£0·82	£0·74	£0·29	£0·17	£10·68	£10·91
Per train-mile	0·04d.	0·04d.	0·03d.	0·03d.	0·01d.	0·01d.	0·21d.	0·21d.
MAINTENANCE OF STATIONS AND BUILDINGS	£790,188	£1,003,337	£500,930	£609,100	£425,353	£445,840	£341,249	£441,291
Per mile of single track	£41·17	£52·31	£30·69	£37·36	£49·09	£51·45	£63·99	£83·01
Per train-mile	1·32d.	1·60d.	1·16d.	1·35d.	1·66d.	1·69d.	1·27d.	1·62d.
TRANSFER TO OR FROM SUSPENSE ACCOUNT	Cr. £390,855	Cr.£340,113	Cr. £29,389	Cr. £35,113	Cr. £289,068	Cr.£102,338	£285,190	£43,209
Total of abstract	£6,428,465	£6,707,727	£4,460,499	£4,655,443	£2,961,240	£3,029,388	£2,938,112	£3,016,712
Per mile of single track	£334·94	£349·69	£273·30	£285·58	£341·75	£349·57	£550·93	£567·48
Per train-mile	10·74d.	10·70d.	10·37d.	10·34d.	11·57d.	11·47d.	10·91d.	11·04d.
Per cent. on traffic receipts	11·16	11·18	10·54	10·45	12·15	12·08	14·97	14·98
QUANTITIES OF PRINCIPAL MATERIALS USED (PER STATISTICAL RETURN X)—								
	Yards	Yards	Yards	Yards	Yards	Yards	Yards	Yards
Ballast	676,722	702,371	461,127	483,669	332,920	319,384	238,443	272,221
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Rails	85,772	87,014	31,276	37,172	29,242	30,364	22,578	28,529
	No.	No.	No.	No.	No.	No.	No.	No.
Sleepers	1,337,227	1,494,757	895,150	1,034,357	620,838	622,910	575,725	649,662

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Table 10—Maintenance of Rolling-Stock, Abstract "B," Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
ENGINE MILES PER STATISTICAL RETURN XIIc—								
Steam	202,417,935	212,380,340	151,472,414	158,767,299	89,111,031	92,009,053	51,519,141	52,783,063
Electric Traction	5,918,526	6,108,211	1,457,880	1,458,354	363,954	357,243	25,647,592	25,947,081
Steam Rail Motors	435,780	344,435	2,486,064	2,594,824	258,646	187,695	15,616	19,922
Any other form of power	34,051	158,798	89,164	210,141	—	91,456	9,776	7,910
Total	208,806,292	218,991,784	155,505,522	163,030,618	89,733,631	92,645,447	77,192,125	78,757,976
TRAFFIC RECEIPTS PER ACCOUNT No. 10—								
Passenger	£24,280,869	£24,739,965	£15,770,771	£16,161,235	£10,476,813	£10,569,140	£14,867,676	£15,164,250
Goods	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676
Total	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
STOCK OF ENGINES, &c., PER STATISTICAL RETURN IIa—								
Locomotives—								
Steam	8,226	8,004	6,901	6,846	3,754	3,608	1,927	1,919
Electric	—	—	13	13	—	—	—	—
Petrol	—	—	2	2	—	—	—	—
Rail Motor Vehicles—								
Steam	25	22	90	90	23	17	1	1
Electric	251	250	86	82	20	20	1,031	1,059
Petrol	—	3	3	5	—	4	1	—
Total	8,502	8,279	7,095	7,038	3,797	3,649	2,960	2,979
LOCOMOTIVES, &c., COMPLETELY RENEWED PER STATISTICAL RETURN XI—								
Locomotives—								
Steam	83	217	17	60	103	106	17	8
Electric	—	—	—	—	—	—	—	—
Rail Motor Vehicles—								
Steam	—	—	—	—	—	—	1	—
Electric	—	—	—	—	—	—	—	—
Petrol	—	—	—	—	—	—	—	—
SUPERINTENDENCE (SALARIES, OFFICE EXPENSES)	£355,118	£400,943	£300,761	£303,089	£110,194	£111,315	£94,511	£97,878
LOCOMOTIVES AND TENDERS (STEAM)—								
Complete renewals	£610,938	£1,166,836	£31,171	£314,173	£277,432	£283,179	£41,688	£54,873
Repairs and Partial Renewals	£2,762,598	£3,240,494	£3,116,729	£3,207,604	£1,319,435	£1,365,121	£751,485	£744,037
Per engine	£336	£405	£452	£468	£352	£378	£390	£388
Per engine-mile (steam)	3·28d.	3·66d.	4·94d.	4·85d.	3·55d.	3·56d.	3·51d.	3·38d.
Transfer to or from Renewal Account	£185,003	Cr. £639,018	£35,205	£116,630	£6,899	Cr. £5,782	£114,312	£97,206
Engine power supplied to and by the Company (balance)	Cr. £130,875	Cr. £135,426	Cr. £196,323	Cr. £205,366	Cr. £61,535	Cr. £61,147	Cr. £12,373	Cr. £17,984
Total	£3,427,664	£3,632,886	£2,986,782	£3,433,042	£1,542,232	£1,581,371	£895,112	£878,132

(Continued on next page)

Table 10—Maintenance of Rolling-Stock, Abstract "B," Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Per engine	£417	£454	£433	£500	£411	£421	£465	£458
Per engine-mile (steam)	4·06d.	4·11d.	4·73d.	5·19d.	4·15d.	4·12d.	4·17d.	3·99d.
Per cent. on traffic receipts	5·95	6·06	7·06	7·71	6·33	6·31	4·56	4·36
Engine miles run per steam engine per annum	24,607	26,534	21,949	23,191	23,738	25,501	26,735	27,558
LOCOMOTIVES (ELECTRIC)—								
Repairs and partial renewals	—	—	£1,073	£856	—	—	—	—
Per engine-mile (electric loco.)	—	—	5·82d.	5·58d.	—	—	—	—
Per engine	—	—	£83	£66	—	—	—	—
Per cent. on traffic receipts	—	—	—	—	—	—	—	—
RAIL MOTOR VEHICLES (OTHER THAN ELECTRIC)—								
Complete renewals	£172	Cr. £292	—	—	—	—	£2,680	Cr. £500
Repairs and partial renewals	£6,159	£4,635	£37,068	£41,623	£1,598	£3,578	£214	£125
Per mile (rail motor)	3·15d.	2·21d.	3·45d.	3·56d.	1·48d.	3·08d.	2·02d.	1·08d.
Per vehicle (rail motor)	£246	£185	£399	£438	£69	£170	£107	£125
Transfer to Renewal Account....	£2,528	£2,792	£20,301	£20,859	£2,084	—	Cr. £2580	£700
Engine power supplied to and by the Company (balance)	—	—	Cr. £10	Cr. £38	Cr. £5	—	—	—
Total	£8,859	£7,135	£57,359	£62,444	£3,677	£3,578	£314	£325
Per mile (rail motor)	4·52d.	3·40d.	5·35d.	5·34d.	3·41d.	3·08d.	2·96d.	2·80d.
Per vehicle	£354	£285	£617	£657	£160	£170	£157	£325
Per cent. on traffic receipts	0·02	0·01	0·14	0·14	0·02	0·01	—	—
RAIL MOTOR VEHICLES (ELECTRIC)								
Complete renewals	Cr. £168	Cr. £1,000	—	—	—	—	£66,470	£85,742
Repairs and partial renewals	£120,177	£120,737	£19,058	£15,008	£9,993	£9,802	£141,233	£206,489
Per vehicle	£479	£483	£222	£183	£500	£490	£137	£195
Transfer to or from Renewal Account	£46,368	£43,709	£8,615	£8,507	—	—	£65,495	Cr. £16,078
Engine power supplied to and by the Company (balance)	—	—	—	—	—	—	£3,743	£3,611
Total	£166,377	£163,446	£27,673	£23,515	£9,993	£9,802	£276,941	£279,765
Per vehicle	£663	£654	£322	£287	£500	£490	£269	£264
Per cent. on traffic receipts....	0·29	0·27	0·06	0·05	0·04	0·04	1·41	1·39
NUMBER OF COACHING VEHICLES (PER STATISTICAL RETURN IIc)	24,456	24,023	19,241	19,056	9,009	8,948	7,991	7,642
COACHING VEHICLES COMPLETELY RENEWED (PER STATISTICAL RETURN XI)	746	1,090	215	379	170	246	178	175
COACHING VEHICLES (other than Rail Motors) —								
Complete renewals	£828,635	£1,465,954	£363,132	£645,572	£266,411	£370,648	£270,626	£267.678
Repairs and partial renewals....	£944,502	£1,017,498	£1,289,005	£1,323,314	£526,575	£511,232	£480,096	£572,567
Per vehicle	£38	£42	£67	£69	£58	£57	£60	£75
Transfer to or from Renewal Account	Cr. £3,573	Cr.£656,080	£235,163	£27,568	£3,979	Cr.£104,873	£14,423	Cr. £64,445
Total	£1,769,564	£1,827,372	£1,887,300	£1,996,454	£796,965	£777,007	£765,145	£775,800

(*Continued on next page*)

Table 10—Maintenance of Rolling-Stock, Abstract "B," Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1934	1934	1933	1934	1933	1934	1933	1934
Per vehicle	£72	£76	£98	£105	£88	£87	£96	£102
Per cent. on passenger train traffic receipts	7·29	7·39	11·97	12·35	7·61	7·35	5·15	5·12
NUMBER OF MERCHANDISE AND MINERAL VEHICLES (PER STATISTICAL RETURN IID)	272,846	270,441	254,825	247,919	81,329	80,350	34,072	33,584
MERCHANDISE AND MINERAL VEHICLES COMPLETELY RENEWED (PER STATISTICAL RETURN XI)	3,094	7,688	875	3,696	1,414	2,504	956	1,097
MERCHANDISE AND MINERAL VEHICLES—								
Complete renewals	£425,196	£1,005,733	£52,186	£355,358	£169,769	£277,265	£115,883	£164,274
Repairs and partial renewals	£1,097,671	£1,169,448	£1,628,536	£1,646,349	£381,149	£417,123	£154,519	£157,367
Per vehicle	£4·02	£4·32	£6·39	£6·64	£4·69	£5·19	£4·54	£4·69
Transfer to or from Renewal Account	£452,883	Cr.£225,823	Cr. £98,738	£242,812	£71,372	Cr. £41,889	£14,367	Cr. £23,254
Total	£1,975,750	£1,949,358	£1,581,984	£2,244,519	£622,291	£652,499	£284,769	£298,387
Per vehicle	£7·24	£7·21	£6·21	£9·05	£7·65	£8·12	£8·36	£8·88
Per cent. on goods train traffic receipts	5·93	5·53	5·96	7·91	4·48	4·50	5·99	6·01
TOTAL OF ABSTRACT	£7,703,332	£7,981,140	£6,842,932	£8,063,919	£3,085,352	£3,135,572	£2,316,792	£2,330,286
Per cent. on traffic receipts	13·37	13·31	16·17	18·11	12·66	12·51	11·81	11·58

(*Continued from page* 815)

and L.N.E.R. have substantial additions to their gross receipts from road transport, and all four companies have greater gross earnings from collection and delivery of parcels and goods. In the last named undertaking, however, expenses, except in the case of the Great Western, have risen to an even greater extent, and increased losses are shown by the L.M.S.R. and L.N.E.R. In steamboats the L.M.S. has improved its net receipts by £45,000. Canals remain much about the same, but docks receipts show a general improvement, particularly on the L.M.S.R. and L.N.E.R., the former company reducing its net loss by £50,000, and the latter improving its net receipts by £56,000. Hotels receipts show some advance and the L.M.S.R. net revenue from this source has increased by £76,000 and that of the L.N.E.R. by nearly £40,000. All companies except the L.N.E.R. have experimented with air transport, but only on a limited scale, and the aggregate gross receipts are less than £5,000.

The total net receipts of the four companies from the whole undertakings amount to £28,833,225, an increase of £2,475,442, or 9·39 per cent. on 1933, and the net return on total capital expenditure has improved as follows:—

	1934 Per cent.	1933 Per cent.
L.M.S.R.	2·49	2·23
L.N.E.R.	2·24	2·08
G.W.R.	2·71	2·44
S.R.	2·86	2·74

Table IV.—Receipts in Respect of Railway Working

This table shows that, although all four companies report increases from passenger and parcels traffic, the percentage of the total revenue received from these sources has diminished. The greatest percentage improvement has come from minerals and merchandise in Classes 1-6, and indicates continued progress in the heavy industries of the country. The L.N.E.R. has the best improvement in coal traffic receipts. Live stock traffic is still on the down grade.

Table V.—Number of and Receipts from Passengers

All companies show increases in the numbers of first class passengers conveyed, but the L.M.S.R. and Southern report slight decreases in revenue. Second class traffic shows a small increase both in numbers and receipts, but it is, of course, in the third class that the main improvement has been obtained. The growth in the issue of workmen's tickets typifies the improvement in employment. Journeys have increased by nearly 13,000,000, or 6·33 per cent., and receipts by £191,970, or 6·66 per cent.

In season ticket receipts there is a decrease in first class except on the Southern. In second class, although fewer tickets have been issued, the receipts are greater, but only the L.N.E.R. and Southern companies report increased receipts from third class season tickets.

Table VI.—Goods Train Traffic—Tons and Receipts

The improvement in tonnage of General Merchandise has not been accompanied by as great an improvement in revenue, and there has been an all-round reduction in the average receipts per ton. The percentage increases in quantities and receipts under each class of traffic have been as follows.

	Tonnage per cent.	Receipts per cent.
Merchandise (excluding classses 1–6) ...	6·49	4·52
Minerals and merchandise (classes 1–6) ...	17·71	14·25
Coal, coke and patent fuel	4·71	4·53
	Number	Receipts
Livestock	— 3·53	— 3·23

Table VII.—Originating Freight Traffic

It will be seen that there have been all round increases in tonnages in most of the commodities enumerated in this

(*Text continued on page* 820)

Table 11—Rolling-Stock Repairs, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
LOCOMOTIVE REPAIRS (Steam)—								
Heavy	2,452	3,010	2,572	2,797	1,016	1,136	761	807
Light	3,387	3,459	1,598	1,627	898	917	333	378
Total	5,839	6,469	4,170	4,424	1,914	2,053	1,094	1,185
Cost	£2,762,598	£3,240,494	£3,116,729	£3,207,604	£1,319,435	£1,365,121	£751,485	£744,037
LOCOMOTIVE REPAIRS (Electric)—								
Heavy	—	—	2	—	—	—	—	—
Light	—	—	1	1	—	—	—	—
Total	—	—	3	1	—	—	—	—
Cost	—	—	£1,073	£856	—	—	—	—
RAIL MOTOR VEHICLES (Steam)—								
Heavy	6	7	41	43	2	6	1	—
Light	10	5	104	125	62	36	—	1
Total	16	12	145	168	64	42	1	1
Cost	£6,159	£4,635	£37,068	£41,623	£1,598	£3,578	£214	£125
RAIL MOTOR VEHICLES (Electric)—								
Heavy	86	93	12	6	1	—	700	818
Light	1,059	983	271	244	127	105	1,255	1,226
Total	1,145	1,076	283	250	128	105	1,955	2,073‡
Cost	£120,177	£120,737	£19,058	£15,008	£9,993	£9,802	£141,233	£206,489
CARRIAGE, &C., REPAIRS—								
Heavy	639	1,267	4,240	3,839	2,466	2,452	1,152	1,277
Light	9,551	9,982	41,232	41,331	10,409	10,811	18,296	17,454
Total	10,190	11,249	45,472	45,170	12,875	13,263	19,448	18,762†
Cost	£944,502	£1,017,498	£1,289,005	£1,323,314	£526,575	£511,232	£480,096	£572,567
WAGON REPAIRS—								
Heavy	16,722	20,384	25,369	33,076	8,000	9,313	1,879	1,643
Light	451,703	472,900	534,769	532,433	192,766	210,030	49,739	53,138
Total	468,425	493,284	560,138	565,509	200,766	219,343	51,618	54,781
Cost	£1,097,671	£1,169,448	£1,628,536	£1,646,349	£381,149	£417,123	£154,519	£157,367

† Includes 31 carriages converted for electric working.
‡ Includes 29 carriages converted for electric working.

(*Continued on next page*)

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Table 11—Rolling-Stock Repairs, Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
ROLLING-STOCK UNDER AND AWAITING REPAIR AT DECEMBER 31—								
Locomotives (steam)	593	512	475	465	451	363	157	144
Per cent. of stock	7·21	6·40	6·88	6·79	12·01	10·06	8·15	7·50
Rail motor vehicles (steam)	2	2	8	8	1	6	—	—
Per cent. of stock	8·00	8·00	8·60	8·42	4·35	28·57	—	—
Rail motor vehicles (electric)	22	20	4	4	—	—	66	96
Per cent. of stock	8·76	8·00	4·65	4·88	—	—	6·40	9·06
Carriages....	995	872	730	784	405	436	240	236
Per cent. of stock	5·56	4·94	5·81	6·30	6·59	7·12	4·05	4·14
Other coaching vehicles	291	342	365	542	202	190	109	115
Per cent. of stock	4·44	5·35	5·46	8·19	7·05	6·73	5·29	5·91
Wagons	11,998	8,394	9,580	9,811	6,348	5,521	733	949
Per cent. of stock	4·40	3·10	3·76	3·96	7·81	6·87	2·15	2·83

(*Continued from page* 818)

table and in particular the iron and steel traffics. Grain, flour and milling offals are an exception and the L.M.S.R. and L.N.E.R. Companies also report a falling off in road making and road repairing materials. In livestock there is a general falling off, particularly in sheep and lambs, but more pigs were carried except on the L.N.E.R.

Table VIII.—Expenditure in Respect of Railway Working

The increase in traffic has been accompanied by an increase under the four principal heads of expenditure—maintenance of way, maintenance of rolling stock, locomotive running expenses and traffic expenses. The only exceptional increase is the expenditure of the L.N.E.R. on maintenance of rolling stock, which has risen by 18 per cent. from £6,842,932 to £8,063,919. The explanation of this increase will be found in Table X. In the smaller items of expenditure it will be seen that the payments in respect of the Railway Freight Rebates Fund show some reduction, but contributions under the National Insurance Acts have increased. It is satisfactory to notice that the ratio of total expenditure to receipts in respect of railway working shows an all-round reduction.

Table IX.—Maintenance and Renewal of Way and Works

Turning now to the particular abstracts of expenditure, we find that three of the companies record reductions in the mileage of their systems, but all four have increased the mileage of track completely renewed, the aggregate being 1,197 miles as compared with 1,110 in 1933, an increase of 8 per cent. There has also been a substantial increase in expenditure on maintenance of stations and buildings, which is probably a step in the right direction. But the total expenditure under abstract "A," although showing some increase per mile of track, absorbs only the same proportion of traffic receipts as in 1933.

Table X.—Maintenance of Rolling Stock

It will be seen that there have been substantial reductions in the stocks of steam locomotives, the total number being 20,377 as compared with 20,808 in 1933. Renewals have, however, been on a more generous scale on the L.M.S.R. and L.N.E.R. systems, but the former company has drawn upon its renewal fund to the extent of £639,000. The average number of miles run per engine per annum has increased appreciably, the Southern with an average of 27,558 coming out highest. That company has increased its stock of electric motor vehicles by 28 but the maintenance cost is only slightly higher.

The stocks of ordinary coaching vehicles have been reduced, but the renewal programmes have been more extensive except on the Southern. In this case also the L.M.S.R. has drawn £656,000 from the renewal fund. The G.W.R. and Southern companies have also had recourse to the reserves to the extent of £105,000 and £64,000 respectively.

Under the head of wagons, the same tendency as in the case of locomotives and carriages is shown, viz., a reduction in the total stock of vehicles, but a large increase in the number of vehicles renewed, viz., 14,985 as compared with 6,339, an increase of 136 per cent. Again the L.M.S.R. has taken £226,000 from reserve to carry out its maintenance and renewals, and smaller sums have been drawn from reserve by the G.W.R. and Southern companies. The L.N.E.R. has followed a different policy from that of the other companies and instead of drawing upon the renewal fund has transferred more than £416,000 to its credit, taking the abstract as a whole.

Table XI.—Rolling Stock Repairs

It will be seen that more repairs have been carried out to locomotives and wagons, but the L.N.E.R. and Southern companies have executed fewer carriage repairs than in 1933. There is a general reduction in the percentage of locomotives under and awaiting repair, but there is considerable fluctuation in the case of coaching vehicles and wagons.

Tables XII and XIII.—Locomotive Running Expenses

Notwithstanding the increase in expenditure under this abstract, the cost of working per steam train mile has been

(*Text continued on page* 828)

Table 12—Locomotive Running Expenses, Abstract "C" (Summary), Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
TRAIN-MILES (PER STATISTICAL RETURN XIIc)—	1933	1934	1933	1934	1933	1934	1933	1934
Steam, tender and tank engines	137,663,179	144,356,893	103,891,533	108,721,562	61,015,891	63,028,144	37,918,774	38,543,671
Electric traction	5,826,786	6,018,564	1,438,316	1,439,806	357,793	351,179	25,610,944	25,899,658
Steam, petrol, &c., rail motors	440,261	406,478	2,487,521	2,713,048	253,578	274,027	17,610	26,978
Total	143,930,226	150,781,935	107,817,370	112,874,416	61,627,262	63,653,350	63,547,328	64,470,307
TOCK OF ENGINES, &C. (PER STATISTICAL RETURN II)—								
Engines	8,226	8,004	6,903	6,848	3,754	3,608	1,927	1,919
Electric power vehicles	251	250	*99	*95	20	20	1,031	1,059
Petrol power, &c., rail motor vehicles	25	25	†93	†95	23	21	2	1
Total	8,502	8,279	7,095	7,038	3,797	3,649	2,960	2,979
SUPERINTENDENCE (SALARIES AND OFFICE EXPENSES)	£297,838	£298,421	£258,328	£257,099	£113,432	£111,628	£50,388	£50,891
Per train-mile	0·50d.	0·47d.	0·58d.	0·55d.	0·44d.	0·42d.	0·19d.	0·19d.
Per engine, &c.	£35·03	£36·05	£36·41	£36·53	£29·87	£30·59	£17·02	£17·08
WORKING—								
Steam train	£11,343,022	£11,674,138	£8,907,797	£9,201,248	£4,847,295	£4,887,866	£3,044,265	£3,107,037
Per train-mile	19·71d.	19·35d.	20·10d.	19·82d.	18·99d.	18·53d.	19·27d.	19·35d.
Per engine	£1,375	£1,454	£1,273	£1,325	£1,283	£1,347	£1,580	£1,619
Electric train	£409,885	£405,682	£64,437	£65,549	£45,617	£44,921	£882,961	£907,653
Per train-mile (electric traction)	16·88d.	16·18d.	10·75d.	10·93d.	30·59d.	30·70d.	8·27d.	8·41d.
Per vehicle (electric traction)	£1,633	£1,623	£651	£690	£2,281	£2,246	£856	£857
Petrol rail motor....	—	—	—	—	—	—	£136	£221
Per train-mile	—	—	—	—	—	—	1·86d.	1·96d.
Per vehicle	—	—	—	—	—	—	£68	£221
Transfer to or from Renewal Account	Cr. £7,713	Cr. £6,917	£35,145	£35,973	—	—	£5,000	£2,119
Balance of engine power supplied to and by the company	Cr.£431,963	Cr. £433,877	Cr.£558,793	Cr. £584,610	Cr.£186,164	Cr. £182,153	Cr. £8,735	Cr. £49,238
Total of abstract	£11,611,069	£11,937,448	£8,706,914	£8,975,260	£4,820,180	£4,862,262	£3,954,015	£4,018,684
Per train-mile (Total)	19·36d.	19·00d.	19·38d.	19·08d.	18·77d.	18·33d.	14·93d.	14·96d.
Per engine, &c. (Total)	£1,366	£1,442	£1,227	£1,275	£1,269	£1,332	£1,336	£1,349
Per cent. of traffic receipts	20·15	19·90	20·57	20·15	19·78	19·40	20·15	19·96

* Includes 13 electric engines † Includes 90 steam motor vehicles

Table 13—Locomotive Running Expenses, Abstract "C," Details, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
STEAM TRAIN WORKING—	1933	1934	1933	1934	1933	1934	1933	1934
Wages connected with the running of locomotive engines	£6,503,802	£6,700,444	£5,332,754	£5,529,245	£3,027,413	£3,045,680	£1,628,698	£1,666,835
Per train-mile	11·30d.	11·11d.	12·03d.	11·91d.	11·86d.	11·55d.	10·31d.	10·38d.
Per engine	£788	£835	£762	£796	£802	£839	£845	£869
Fuel	£4,159,892	£4,281,073	£3,046,014	£3,132,761	£1,562,156	£1,592,414	£1,251,945	£1,269,870
Per train-mile	7·23d.	7·10d.	6·87d.	6·75d.	6·12d.	6·04d.	7·92d.	7·91d.
Per engine	£504	£533	£435	£451	£414	£439	£650	£662

(Continued on next page)

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Table 13—Locomotive Running Expenses, Abstract "C," Details, Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
STEAM TRAIN WORKING—*contd.*	1933	1934	1933	1934	1933	1934	1933	1934
Water	£309,703	£306,395	£255,283	£260,935	£105,206	£98,108	£75,420	£79,501
Per train-mile	0·54d.	0·51d.	0·58d.	0·56d.	0·41d.	0·37d.	0·48d.	0·49d.
Per engine	£38	£38	£37	£38	£28	£27	£39	£41
Lubricants	£92,209	£99,702	£62,153	£64,732	£39,345	£37,695	£23,383	£23,449
Per train-mile	0·16d.	0·16d.	0·14d.	0·14d.	0·15d.	0·14d.	0·15d.	0·15d.
Per engine	£11	£12	£9	£9	£10	£11	£12	£12
Other stores (including clothing)	£158,386	£163,558	£120,744	£119,866	£73,752	£73,231	£39,656	£42,296
Per train-mile	0·27d.	0·27d.	0·27d.	0·26d.	0·29d.	0·28d.	0·25d.	0·26d.
Per engine	£19	£21	£17	£17	£19	£20	£21	£22
Miscellaneous	£119,030	£122,966	£90,849	£93,709	£39,423	£40,738	£25,163	£25,086
Per train-mile	0·21d.	0·20d.	0·21d.	0·20d.	0·16d.	0·15d.	0·16d.	0·16d.
Per engine	£15	£15	£13	£14	£10	£11	£13	£13
ELECTRICAL TRAIN WORKING—								
Wages of motormen	£94,858	£94,807	£14,863	£14,489	£8,544	£8,485	£201,334	£204,303
Per train-mile (electric traction)	3·91d.	3·78d.	2·48d.	2·41d.	5·73d.	5·80d.	1·88d.	1·89d.
Per vehicle (electric traction)	£378	£379	£150	£152	£427	£424	£195	£193
Electric current	£305,553	£301,479	£47,806	£49,414	£36,718	£36,104	£674,370	£696,385
Per train-mile (electric traction)	12·58d.	12·02d.	7·97d.	8·24d.	24·62d.	24·68d.	6·32d.	6·45d.
Per vehicle (electric traction)	£1,217	£1,206	£483	£520	£1,836	£1,805	£654	£657
Lubricants	£3,153	£2,883	£328	£337	£136	£155	£3,760	£3,992
Per train-mile (electric traction)	0·13d.	0·12d.	0·06d.	0·06d.	0·09d.	0·10d.	0·04d.	0·04d.
Per vehicle (electric traction)	£13	£12	£3	£4	£7	£8	£4	£4
Other Stores (including clothing)	£6,321	£6,513	£1,440	£1,309	£219	£177	£3,497	£2,973
Per train-mile (electric traction)	0·26d.	0·26d.	0·24d.	0·22d.	0·15d.	0·12d.	0·03d.	0·03d.
Per vehicle (electric traction)	£25	£26	£15	£14	£11	£9	£3	£3
PETROL, RAIL MOTOR WORKING—								
Wages of motormen	—	—	—	—	—	—	£86	£130
Per train-mile (petrol rail motor)	—	—	—	—	—	—	1·18d.	1·15d.
Per vehicle	—	—	—	—	—	—	£43	£130
Petrol	—	—	—	—	—	—	£39	£77
Per train-mile (petrol rail motor)	—	—	—	—	—	—	0·53d.	0·68d.
Per vehicle	—	—	—	—	—	—	£20	£77
Lubricants	—	—	—	—	—	—	£11	£14
Per train-mile (petrol rail motor)	—	—	—	—	—	—	0·15d.	0·13d.
Per vehicle	—	—	—	—	—	—	£5	£14

Table 14—Traffic Expenses, Abstract " D," Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Total traffic receipts per Account No. 10	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
Train mileage per statistical return XIIB	143,612,725	150,486,422	103,240,137	108,053,106	61,452,040	63,371,714	64,650,997	65,574,345
SALARIES AND WAGES—								
Superintendence	£1,093,746	£1,132,992	£1,044,449	£1,023,387	£530,638	£535,970	£345,442	£353,169
Stationmasters and clerks ...	£4,368,719	£4,334,599	£2,608,629	£2,559,425	£1,283,535	£1,271,511	£912,314	£904,863
Signalmen and gatemen ...	£1,879,228	£1,880,462	£1,372,515	£1,365,596	£762,554	£771,586	£497,659	£506,901
Ticket collectors, policemen, porters, &c.	£3,951,997	£4,045,727	£2,866,744	£2,875,626	£1,827,477	£1,841,356	£1,348,683	£1,374,909
Guards	£1,412,637	£1,491,953	£1,015,575	£1,053,807	£620,731	£635,762	£413,396	£424,360
Total	£12,706,327	£12,885,733	£8,907,912	£8,877,841	£5,024,935	£5,056,185	£3,517,494	£3,564,202
Per cent. on total traffic receipts	22·05	21·48	21·05	19·93	20·62	20·17	17·93	17·70
FUEL, LIGHTING, WATER AND GENERAL STORES	£492,404	£516,725	£399,713	£420,582	£196,203	£195,188	£189,250	£188,613
Per cent. on total traffic receipts	0·85	0·86	0·94	0·94	0·81	0·78	0·96	0·94
CLOTHING	£116,930	£105,608	£77,526	£83,666	£59,861	£59,429	£65,966	£82,655
Per cent. on total traffic receipts	0·20	0·18	0·18	0·19	0·25	0·24	0·34	0·41
PRINTING, ADVERTISING, STATIONERY, STAMPS AND TICKETS	£530,288	£549,866	£359,950	£373,316	£187,605	£196,804	£215,745	£213,852
Per cent. on total traffic receipts	0·92	0·92	0·85	0·84	0·77	0·78	1·10	1·06
WAGON COVERS, &C.	£154,678	£159,453	£124,671	£113,783	£49,948	£57,261	£16,156	£19,426
Per cent. on total traffic receipts	0·27	0·27	0·30	0·26	0·21	0·23	0·08	0·10
EXPENSES OF JOINT STATIONS AND JUNCTIONS	£26,929	£32,047	Cr. £16,169	Cr. £15,482	£4,349	£1,310	Cr. £9,411	Cr. £7,017
Per cent. on total traffic receipts	0·05	0·05	0·04	0·03	0·02	0·01	0·05	0·04
CLEANSING, LUBRICATING AND LIGHTING OF VEHICLES	£691,858	£714,126	£456,508	£460,923	£262,351	£266,170	£196,578	£199,432
Per cent. on total traffic receipts	1·20	1·19	1·08	1·04	1·08	1·06	1·00	0·99
SHUNTING EXPENSES (OTHER THAN MECHANICAL)—								
Wages	£1,323,157	£1,364,517	£939,445	£959,710	£589,161	£600,087	£253,085	£255,444
Other expenses	£21,010	£20,108	£29,413	£30,684	£5,532	£5,657	£4,972	£4,648
Total	£1,344,167	£1,384,625	£968,858	£990,394	£594,693	£605,744	£258,057	£260,092
Per cent. on total traffic receipts	2·33	2·31	2·29	2·22	2·44	2·42	1·32	1·29
WORKING OF STATIONARY ENGINES, HOISTS, CRANES, &C.	£376,052	£373,364	£199,273	£204,217	£71,788	£75,277	£64,449	£69,563
Per cent. on total traffic receipts	0·65	0·62	0·47	0·46	0·29	0·30	0·33	0·35
RAILWAY CLEARING HOUSE EXPENSES	£206,848	£196,149	£150,754	£148,806	£87,745	£95,393	£44,549	£46,600
Per cent. on total traffic receipts	0·36	0·33	0·36	0·33	0·36	0·38	0·23	0·23
PASSENGER TICKET AGENTS' COMMISSION	£84,819	£87,356	£59,673	£63,541	£33,537	£35,122	£63,055	£64,204
Per cent. on total traffic receipts	0·15	0·14	0·14	0·14	0·14	0·14	0·32	0·32
TRANSHIPMENT BY ROAD VEHICLES	£750,433	£824,855	£418,814	£444,793	£326,959	£333,873	£167,853	£173,449
Per cent. on total traffic receipts	1·30	1·37	0·99	1·00	1·34	1·33	0·86	0·86
MISCELLANEOUS EXPENSES ...	£156,685	£171,707	£127,519	£130,539	£68,863	£66,011	£65,488	£74,735
Per cent. on total traffic receipts	0·27	0·29	0·30	0·29	0·28	0·26	0·33	0·37
COAL, &C., TIPPING EXPENSES	£44,368	£46,148	—	—	—		—	—
Per cent. on total traffic receipts	0·08	0·08	—	—	—	—	—	—

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XUM

Table 14—Traffic Expenses, Abstract "D," Years 1933 and 1934—*Continued*

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Transfer to or from Renewal Account	Cr. £30,672	Cr. £35,786	£21,342	£19,751	Cr. £1,299	£5,520	Cr. £1,647	Cr. £4,824
Per cent. on total traffic receipts	0·05	0·06	0·05	0·04	0·01	0·02	0·01	0·02
Total of Abstract	£17,652,114	£18,011,976	£12,256,344	£12,316,669	£6,967,538	£7,049,287	£4,853,582	£4,944,982
Per cent. on total traffic receipts	30·63	30·03	28·96	27·65	28·60	28·12	24·74	24·56
Per train-mile	29·50d.	28·73d.	28·49d.	27·36d.	27·21d.	26·70d.	18·02d.	18·10d.

Table 15—General Charges, Abstract "E," Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Gross receipts of the whole undertaking (excluding miscellaneous as per Account No. 8)	£65,291,119	£68,180,325	£48,789,274	£51,376,257	£28,423,656	£29,280,383	£22,598,417	£23,152,749
Train mileage per Statistical Return XIIB	143,612,725	150,486,422	103,240,137	108,053,106	61,452,040	63,371,714	64,650,997	65,574,345
Directors' Fees voted by Shareholders	£26,250	£26,250	£21,000	£21,000	£22,705	£22,124	£16,900	£17,000
Per cent. on gross receipts	0·04	0·04	0·04	0·04	0·08	0·08	0·08	0·07
Fees paid to and Expenses of Directors on Joint Committees not included in Abstract "J"	£286	£285	£198	£200	£427	£427	£742	£742
Auditors and Public Accountants	£4,686	£4,686	£2,590	£2,596	£3,000	£3,000	£2,633	£2,628
Per cent. on gross receipts	0·01	0·01	—	—	0·01	0·01	0·01	0·01
Salaries of Secretary, General Manager, Accountant and Clerks	£464,961	£458,627	£433,600	£436,111	£200,797	£205,741	£218,147	£220,624
Per cent. on gross receipts	0·71	0·67	0·89	0·85	0·71	0·70	0·97	0·95
Office Expenses of Secretary, General Manager, Accountant and Clerks	£50,358	£54,029	£57,449	£49,475	£22,404	£22,640	£25,522	£24,331
Per cent. on gross receipts	0·07	0·08	0·12	0·10	0·08	0·08	0·11	0·11
Rating Expenses	£18,741	£16,820	£9,893	£9,243	£6,297	£6,096	£7,579	£7,487
Per cent. on gross receipts	0·03	0·03	0·02	0·02	0·02	0·02	0·04	0·03
Insurance	£44,232	£39,707	£75,810	£76,194	—	—	£28,937	£30,116
Per cent. on gross receipts	0·07	0·06	0·16	0·15	—	—	0·13	0·13
Superannuation and Benevolent Funds, Pensions, &c.	£1,538,906	£1,584,581	£763,800	£767,246	£763,938	£780,867	£500,149	£506,455
Per cent. on gross receipts	2·36	2·32	1·57	1·49	2·69	2·67	2·21	2·19
Subscriptions and Donations....	£45,175	£46,143	£4,905	£4,857	£6,095	£6,465	£3,663	£4,139
Per cent. on gross receipts	0·07	0·07	0·01	0·01	0·02	0·02	0·02	0·02
Miscellaneous Expenses	£99,469	£95,583	£38,761	£39,823	£26,237	£25,508	£21,305	£21,470
Per cent. on gross receipts .. .	0·15	0·14	0·08	0·08	0·09	0·09	0·09	0·09
Proportion transferred to other accounts	Cr. £196,742	Cr. £201,757	Cr. £140,419	Cr. £145,573	Cr. £139,938	Cr. £142,842	Cr. £94,591	Cr. £97,531
Total of abstract	£2,096,322	£2,124,954	£1,267,592	£1,261,172	£911,962	£930,026	£730,986	£737,460
Per cent. on gross receipts	3·21	3·12	2·60	2·46	3·21	3·18	3·23	3·18
Per train-mile	3·50d.	3·39d.	2·95d.	2·80d.	3·56d.	3·52d.	2·71d.	2·70d.

Table 16—Receipts and Expenses in Connection with Collection and Delivery of Parcels and Goods, Account No. 16, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
GROSS RECEIPTS—	1933	1934	1933	1934	1933	1934	1933	1934
Passenger train traffic	£106,284	£116,026	£82,491	£96,657	£75,861	£84,352	£83,828	£89,066
Goods train traffic	£1,872,057	£1,976,179	£989,965	£1,039,647	£776,600	£864,246	£379,600	£392,534
Miscellaneous	£3,752	£4,067	£15,448	£15,274	£11,531	£13,269	£10,814	£10,857
Total	£1,982,093	£2,096,272	£1,087,904	£1,151,578	£863,992	£961,867	£474,242	£492,457
No. OF HORSES FOR ROAD VEHICLES, PER STATISTICAL RETURN III	8,286	8,123	3,244	2,901	1,942	1,911	930	851
GOODS AND PARCELS, ROAD VEHICLES, PER STATISTICAL RETURN III—								
Road motors for goods and parcels	2,088	2,499	2,267	2,791	1,704	1,860	453	505
Horse wagons and carts	16,002	16,144	6,819	6,239	3,443	3,335	1,313	1,222
Miscellaneous	293	871	313	662	162	345	52	92
Total	18,383	19,514	9,399	9,692	5,309	5,540	1,818	1,819
SUPERINTENDENCE	£45,381	£47,037	£20,603	£21,352	£22,604	£24,160	£5,430	£4,725
Per cent. on gross receipts	2·29	2·24	1·89	1·86	2·62	2·51	1·15	0·96
MAINTENANCE OF BUILDINGS	£27,592	£28,994	£12,508	£12,892	£10,183	£10,196	£2,252	£1,774
Per cent. on gross receipts	1·39	1·38	1·15	1·12	1·18	1·06	0·48	0·36
MAINTENANCE OF MOTOR VEHICLES	£183,973	£289,439	£73,307	£91,551	£105,116	£139,010	£35,659	£44,605
Per motor vehicle	£88	£116	£32	£33	£62	£75	£79	£88
Per cent. on gross receipts	9·28	13·81	6·74	7·95	12·17	14·45	7·52	9·06
MAINTENANCE OF HORSES	£466,048	£475,966	£185,512	£181,225	£126,251	£127,670	£65,100	£67,281
Per horse	£56	£59	£57	£62	£65	£67	£70	£79
Per cent. on gross receipts	23·51	22·70	17·05	15·74	14·61	13·27	13·73	13·66
MAINTENANCE OF HORSE VEHICLES	£94,990	£142,266	£49,816	£44,679	£22,926	£20,549	£12,574	£13,107
Per horse vehicle	£6	£9	£7	£7	£7	£6	£10	£11
Per cent. on gross receipts	4·79	6·78	4·58	3·88	2·65	2·14	2·65	2·66
TRAFFIC EXPENSES	£1,674,158	£1,747,161	£1,004,346	£1,064,957	£706,702	£732,466	£297,453	£311,049
Per cent. on gross receipts	84·47	83·35	92·32	92·48	81·79	76·15	62·73	63·16
AMOUNT PAID FOR HIRED CARTAGE	£336,979	£373,636	£208,064	£212,047	£168,923	£187,242	£107,886	£118,377
Per cent. on gross receipts	17·00	17·82	19·13	18·41	19·55	19·47	22·75	24·04
GENERAL CHARGES	£67,625	£72,019	£27,542	£30,764	£32,524	£35,535	£12,825	£13,051
Per cent. on gross receipts	3·41	3·44	2·53	2·67	3·76	3·69	2·70	2·65
Rates, INCLUDING RATE RELIEF....	£26,393	£25,804	£15,054	£15,115	£7,407	£6,533	£3,974	£3,932
Per cent. on gross receipts	1·33	1·23	1·38	1·31	0·86	0·68	0·84	0·80
LICENCE DUTY	£75,517	£110,201	£58,197	£86,294	£58,895	£83,597	£17,841	£28,382
Per cent. on gross receipts	3·81	5·26	5·35	7·49	6·82	8·69	3·76	5·76
MISCELLANEOUS	£61,945	£54,501	£39,811	£45,873	£29,155	£26,325	£7,316	£7,992
Per cent. on gross receipts	3·13	2·60	3·66	3·98	3·38	2·74	1·54	1·62
Transfer to or from Renewal Account	£25,792	Cr. £53,424	£95,033	£117,697	£49,177	£32,589	£17,699	£14,449
CARTAGE PERFORMED FOR AND BY OTHER COMPANIES	Cr. £802,995	Cr. £834,622	Cr. £431,249	Cr. £450,179	Cr. £327,532	Cr. £340,770	Cr. £172,287	Cr. £179,124
Per cent. on gross receipts	40·51	39·81	39·64	39·09	37·91	35·43	36·33	36·37
TOTAL OF ABSTRACT	£2,283,399	£2,478,978	£1,358,544	£1,474,267	£1,012,331	£1,085,101	£413,722	£449,601
Per cent. on gross receipts	115·20	118·25	124·88	128·02	117·17	112·81	87·25	91·29

Table 17—Receipts and Payments in respect of Running Power Expenses, Abstract "G," Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
Passenger train receipts, per Account No. 10	£24,280,869	£24,739,965	£15,770,771	£16,161,235	£10,476,813	£10,569,140	£14,867,676	£15,164,250
PASSENGER TRAIN TRAFFIC—								
Receipts	£80,897	£77,259	£97,654	£104,900	£68,969	£70,723	£4,676	£4,780
Per cent. on passenger train receipts	0·33	0·31	0·62	0·65	0·66	0·67	0·03	0·03
Payments	£35,278	£36,067	£55,912	£58,546	£12,767	£13,824	£16,464	£3,599
Per cent. on passenger train receipts	0·15	0·15	0·35	0·36	0·12	0·13	0·11	0·02
Goods train receipts, per Account No. 10	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676
GOODS TRAIN TRAFFIC—								
Receipts	£87,385	£91,827	£135,818	£140,915	£97,152	£104,251	£34,575	£38,668
Per cent. on goods train receipts	0·26	0·26	0·51	0·50	0·70	0·72	0·73	0·78
Payments	£112,048	£121,347	£61,525	£62,629	£20,889	£18,282	£44,724	£48,061
Per cent. on goods train receipts	0·34	0·34	0·23	0·22	0·15	0·13	0·94	0·97
TOTAL TRAFFIC RECEIPTS, PER ACCOUNT No. 10	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
TOTAL—								
Receipts	£168,282	£169,085	£233,472	£245,815	£166,121	£174,974	£39,252	£43,448
Per cent. on total traffic receipts	0·29	0·28	0·55	0·55	0·68	0·70	0·20	0·22
Payments	£147,326	£157,415	£117,437	£121,174	£33,656	£32,106	£61,188	£51,660
Per cent. on total traffic receipts	0·26	0·26	0·28	0·27	0·14	0·13	0·31	0·26

Table 18—Abstract "H," Mileage, Demurrage and Wagon Hire, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
MILEAGE AND DEMURRAGE—	£	£	£	£	£	£	£	£
Passenger train vehicles—								
Receipts	31,991	33,472	38,382	39,175	4,092	3,921	20,163	20,359
Expenditure	18,153	33,920	18,584	18,631	3,083	4,472	25,519	27,192
Balance	Cr. 13,838	Dr. 448	Cr. 19,798	Cr. 20,544	Cr. 1,009	Dr. 551	Dr. 5,356	Dr. 6,833
Goods train vehicles—								
Receipts	32,143	36,652	167,765	182,816	733	892	57,709	60,697
Expenditure	3,150	3,774	7,208	8,467	60,427	69,023	70,171	80,164
Balance	Cr. 28,993	Cr. 32,878	Cr. 160,557	Cr. 174,349	Dr. 59,694	Dr. 68,131	Dr. 12,462	Dr. 19,467
HIRE—								
Passenger train vehicles—								
Receipts	5,831	4,760	11,391	11,180	382	347	859	913
Expenditure	34,621	35,690	264	359	—	—	—	—
Balance	Dr. 28,790	Dr. 30,930	Cr. 11,127	Cr. 10,821	Cr. 382	Cr. 347	Cr. 859	Cr. 913
Goods train vehicles—								
Receipts	1,630	589	30,178	39,678	937	2,666	848	957
Expenditure	38	176	14,504	37,331	6,145	6,149	33	261
Balance	Cr. 1,592	Cr. 413	Cr. 15,674	Cr. 2,347	Dr. 5,208	Dr. 3,483	Cr. 815	Cr. 696
TOTAL—								
Receipts	71,595	75,473	247,717	272,850	6,144	7,826	79,579	82,925
Expenditure	55,962	73,560	40,560	64,788	69,655	79,644	95,723	107,616
Balance	Cr. 15,633	Cr. 1,913	Cr. 207,157	Cr. 208,062	Dr. 63,511	Dr. 71,818	Dr. 16,144	Dr. 24,691

Table 19—Receipts and Expenditure in respect of Steamboats, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
GROSS RECEIPTS—	1933	1934	1933	1934	1933	1934	1933	1934
Passengers	£402,280	£439,492	£339,622	£356,163	£123,012	£126,233	£697,132	£685,295
Per cent. of receipts	31·84	33·25	52·03	50·89	41·43	41·43	61·55	60·95
Parcels and Mails	£158,999	£159,327	£42,493	£44,256	£42,735	£45,510	£209,244	£227,346
Per cent. of receipts	12·58	12·05	6·51	6·33	14·39	14·93	18·48	20·22
Merchandise	£561,506	£581,192	£230,763	£242,875	£109,660	£111,305	£163,515	£148,384
Per cent. of receipts	44·43	43·97	35·36	34·70	36·94	36·53	14·44	13·20
Livestock	£92,113	£94,194	£2,006	£2,118	£5,905	£4,584	£3,846	£3,950
Per cent. of receipts	7·29	7·13	0·31	0·30	1·99	1·50	0·34	0·35
Miscellaneous	£48,814	£47,636	£37,801	£54,459	£15,584	£17,099	£58,855	£59,394
Per cent. of receipts	3·86	3·60	5·79	7·78	5·25	5·61	5·19	5·28
Total	£1,263,712	£1,321,841	£652,685	£699,871	£296,896	£304,731	£1,132,592	£1,124,369
EXPENDITURE—								
Salaries and wages	£445,848	£455,507	£272,987	£291,841	£98,668	£97,838	£344,118	£344,947
Per cent. of expenditure	41·28	41·67	36·50	36·60	33·53	32·76	33·93	34·42
Fuel	£155,947	£157,765	£106,936	£119,531	£62,335	£60,253	£159,182	£159,067
Per cent. of expenditure	14·44	14·43	14·30	14·99	21·18	20·17	15·69	15·87
Stores, lubricants, water, &c.	£21,002	£20,775	£18,679	£19,457	£6,305	£6,413	£30,103	£31,194
Per cent. of expenditure	1·94	1·90	2·50	2·44	2·15	2·15	2·97	3·11
Renewals	£1,605	£398,524	—	—	£61,232	£11,978	£79,064	£32,866
Per cent. of expenditure	0·15	36·45	—	—	20·81	4·01	7·80	3·28
Repairs	£74,866	£75,883	£74,676	£75,896	£22,872	£23,125	£131,815	£124,390
Per cent. of expenditure	6·93	6·94	9·98	9·52	7·77	7·74	13·00	12·41
Insurance	£29,947	£26,763	£22,879	£26,117	£8,682	£8,361	£16,752	£15,563
Per cent. of expenditure	2·77	2·45	3·06	3·27	2·95	2·80	1·65	1·55
Harbour fees and Light dues	£121,982	£123,118	£66,081	£69,386	£36,147	£37,178	£86,140	£93,027
Per cent. of expenditure	11·30	11·26	8·83	8·70	12·28	12·45	8·49	9·28
General Charges	£37,408	£37,634	£15,368	£15,771	£10,308	£10,552	£39,380	£39,522
Per cent. of expenditure	3·46	3·44	2·05	1·98	3·50	3·53	3·88	3·95
Miscellaneous	£64,748	£69,455	£83,228	£90,595	£13,864	£16,484	£66,025	£62,780
Per cent. of expenditure	6·00	6·36	11·13	11·36	4·71	5·52	6·51	6·27
TOTAL WORKING EXPENSES	£953,353	£1,365,424	£660,834	£708,594	£320,413	£272,183	£952,579	£903,356
Per cent. of expenditure	88·27	124·90	88·35	88·86	108·88	91·13	93·92	90·14
Transfer to or from Renewal Account	£126,706	Cr.£272,160	£87,165	£88,815	Cr. £26,130	£26,482	£61,690	£98,784
Per cent. of expenditure	11·73	24·90	11·65	11·14	8·88	8·87	6·08	9·86
TOTAL EXPENDITURE	£1,080,059	£1,093,264	£747,999	£797,409	£294,283	£298,665	£1,014,269	£1,002,140
Per cent. on gross receipts	85·47	82·71	114·60	113·94	99·12	98·01	89·55	89·13
BALANCE—								
Profit	£183,653	£228,577	loss £95,314	loss £97,538	£2,613	£6,066	£118,323	£122,229
Per cent. on gross receipts	14·53	17·29	—	—	0·88	1·99	10·45	10·87

XUM

Table 20—Receipts and Expenditure in respect of Canals, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
MILES OF NAVIGATION, PER STATISTICAL RETURN V.	537	537	246	246	211	211	4½	4½
Gross receipts	£116,273	£124,812	£35,316	£36,052	£14,149	£14,094	£2,452	£1,601
Per mile of navigation	£217	£233	£144	£147	£67	£67	£545	£356
EXPENDITURE—								
Superintendence	£3,080	£3,170	£355	£350	£195	£197	£137	£138
Wages of toll clerks, lock-keepers, &c.	£12,220	£11,722	£4,212	£4,205	£499	£462	£150	£143
Maintenance of canals and water supply	£88,854	£94,793	£35,826	£33,654	£30,333	£32,884	£849	£864
Rates, including rate relief	£8,610	£8,747	£4,849	£4,616	£1,683	£1,736	£56	£48
Miscellaneous	£11,034	£11,183	£2,276	£1,910	£1,314	£1,366	£25	£22
General charges	£4,870	£5,129	£1,008	£972	£672	£728	£29	£29
Transfer from Renewal Account	Cr. £2,631	Cr. £8,544	—	—	—	—	—	—
TOTAL	£126,037	£126,200	£48,526	£45,707	£34,696	£37,373	£1,246	£1,244
Per mile of navigation	£235	£235	£197	£186	£164	£177	£277	£276
Per cent. on gross receipts	108	101	137	127	245	265	51	78
BALANCE—								
Profit	—	—	—	—	—	—	£1,206	£357
Loss	£9,764	£1,388	£13,210	£9,655	£20,547	£23,279	—	—

(*Continued from page* 820)

reduced in the case of the majority of the companies, but cost per train mile of electric train working shows a slight increase, except on the L.M.S.R. system, where the main saving has been in the cost of electric current.

Table XIV.—Traffic Expenses

Salaries and wages have naturally gone up owing to the increase in traffic and also to the partial restoration of the wages cuts, but each company has been able to effect some economy under the head of stationmasters and clerks. The ratio of traffic expenditure to traffic receipts has been reduced in the case of all companies.

Table XV.—General Charges

There is comparatively little change in the expenditure under the various heads in this abstract, though contributions to superannuation and benevolent funds, pensions, &c., are still rising. In the total, however, the ratio of expenses to gross receipts is rather lower than it was a year ago.

Table XVI.—Receipts and Expenses in Connection with Collection and Delivery of Parcels and Goods

All companies report increases in revenues from their collection and delivery services, but in most cases expenditure has increased to a greater degree, and only the Southern Railway shows a profit, and that on a reduced scale. The number of horses, and horse wagons and carts, continues to diminish, and the number of road motors to increase. Horse cost has risen to some extent, and the maintenance cost per motor vehicle is also rising. The individual companies' costs per motor vehicle vary very considerably. The increased licence duties have added substantially to the expenditure, and large amounts are still paid by all companies for hired cartage.

Table XVII.—Receipts and Payments in Respect of Running Power Expenses

All companies show some increase in receipts in respect of running power traffic, and whilst the L.M.S.R. and L.N.E.R. have also increased their payments, the G.W.R. and Southern show some reduction.

Table XVIII.—Mileage, Demurrage and Wagon Hire

There have been all-round increases both in receipts and expenditure, and the L.N.E.R. still comes out with a net credit of over £200,000. The L.M.S.R. credit has been reduced from £15,633 to £1,913 and the debit balances of the G.W.R. and Southern have each been increased by about £8,000.

Table XIX.—Receipts and Expenditure in Respect of Steamboats

Three of the companies report increased receipts, but the revenue of the Southern is less by £8,000. That company has, however, reduced its expenditure by £12,000, chiefly in respect of renewals, and has increased its profit from £118,000 to £122,000. The L.M.S.R. has spent nearly £400,000 on renewals, but has taken £272,000 from the reserve fund, whereas in 1933 £126,000 was transferred to the fund. The net result is an increased profit of £45,000. The L.N.E.R. still shows a loss on its steamboat workings in the neighbourhood of £100,000, whilst the G.W.R. has a modest profit of £6,000.

Table XX.—Receipts and Expenditure in Respect of Canals

There has been no change in the mileage of navigation owned and maintained. The L.M.S.R. has an increase of £8,000 in receipts and has reduced its loss in working by the

same amount. The figures of the other companies show comparatively little change.

Table XXI.—Receipts and Expenditure in Respect of Road Transport

Unlike Collection and Delivery, the business of Road Transport shows a reasonable profit. The L.M.S.R. and L.N.E.R. both show increases in receipts of £34,000 and have increased their profits by £11,000 and £12,000 respectively. The figures of the other two companies show little change.

Table XXII.—Receipts and Expenditure in Respect of Docks, Harbours and Wharves

The L.M.S.R. and L.N.E.R. companies have both earned substantial increases in revenue, particularly under the heading of "Cranage and other services." Modest increases are also shown by the G.W.R. and Southern companies. Expenditure on the whole has not gone up to the same degree, with the result that the L.M.S.R. has reduced its loss on working by £50,000 and the L.N.E.R., although transferring to reserve £80,000 more than in 1933, has increased its net receipts by £56,000. This improvement has been assisted by a reduction of nearly £70,000 in maintenance charges. The G.W.R., by taking £21,000 more from reserve, has increased its net receipts from £66,000 to nearly £89,000. The Southern net revenue is practically unchanged.

Table XXIII.—Receipts and Expenditure in Respect of Hotels, Refreshment Rooms and Restaurant Cars

The L.M.S.R. has earned nearly £200,000 more in revenue, and its net receipts have increased by £76,000. The L.N.E.R. has £88,000 more gross and £40,000 more net revenue to its credit, whilst the G.W.R. net figure is practically the same as a year ago. The loss in working on the Southern Railway is rather greater than in 1933.

Table XXIV.—Mileage of Line and Receipts per Route Mile

Very little change is reported in the route and track mileage, but the tendency is in a downward direction. This reduction coupled with the increase in railway receipts has

(*Text continued on page* 834)

Table 21—Receipts and Expenditure in respect of Road Transport, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
GROSS RECEIPTS:								
Passenger Services—Passengers	£188,992	£208,703	£76,851	£86,273	£2,252	—	£2,467	—
Other Receipts	£898	£746	£321	£335	—	—	—	—
Goods Services	£123,757	£139,147	£59,731	£84,465	£63,124	£67,562	£17,904	£21,137
Hire of Vehicles—Passenger and Goods	£1,836	£521	—	£1	—	—	—	—
Miscellaneous	£315	£343	£49	£49	£63	£96	£24	£19
TOTAL	£315,798	£349,460	£136,952	£171,123	£65,439	£67,658	£20,395	£21,156
EXPENDITURE:								
Superintendence	£6,698	£7,313	£3,314	£3,724	£1,624	£2,036	£126	£118
Maintenance of Buildings	£3,483	£3,718	£1,908	£2,397	£540	£559	£76	£43
Maintenance of Motor Vehicles	£71,185	£71,515	£19,392	£20,235	£7,288	£9,392	£2,360	£2,585
Maintenance of Horses	£1,779	£2,027	£1,030	£1,115	£229	£221	—	—
Maintenance of Horse Vehicles	£383	£414	£284	£415	£53	£50	—	—
Traffic Expenses	£146,218	£153,650	£82,133	£95,426	£31,635	£32,008	£9,958	£9,680
Hire of Vehicles	£43	£109	£3,070	£8,801	—	£907	£37	£186
General Charges	£3,899	£4,158	£2,242	£2,530	£1,690	£2,062	£379	£440
Rates	£1,003	£973	£393	£451	£10	£7	£92	£98
Licence Duty	£13,695	£19,474	£7,834	£10,496	£4,433	£5,758	£1,034	£1,427
Miscellaneous	£7,975	£13,050	£10,391	£11,331	£1,626	£1,163	£189	£198
Road Transport for and by other Railway Companies and Undertakings	£984	£3,991	Cr. £28,258	Cr. £32,694	£71	£33	Cr. £3	Cr. £96
Transfer to or from Renewal Account	£10,455	£10,358	£18,397	£20,123	£3,648	£2,378	£608	£186
TOTAL	£267,800	£290,751	£122,130	£144,350	£52,847	£56,574	£14,856	£14,865
Per cent. of gross receipts	84·80	83·20	89·19	84·35	80·76	83·62	72·84	70·26
BALANCE								
Profit	£47,998	£58,709	£14,822	£26,773	£12,592	£11,084	£5,539	£6,291
Loss	—	—	—	—	—	—	—	—

Table 22—Receipts and Expenditure in Respect of Docks, Harbours and Wharves, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
GROSS RECEIPTS—	1933	1934	1933	1934	1933	1934	1933	1934
Harbour and light dues	£62,140	£63,294	£22,907	£22,013	£25,059	£26,931	£66,019	£68,731
Per cent. of receipts	7·92	7·26	0·91	0·83	1·27	1·36	6·48	6·64
Dock dues on ships	£71,057	£75,561	£462,204	£478,522	£496,350	£476,396	£264,740	£258,739
Per cent. of receipts	9·06	8·67	18·33	18·08	25·18	24·13	25·99	24·99
Dock dues on goods	£103,746	£112,291	£272,895	£289,172	£416,079	£430,253	£65,168	£70,346
Per cent. of receipts	13·22	12·88	10·82	10·92	21·11	21·80	6·40	6·80
Dock dues on passengers	£210	£158	£563	£381	£6,886	£8,110	£17,230	£18,100
Per cent. of receipts	0·03	0·02	0·02	0·01	0·35	0·41	1·69	1·75
Wharf and pier dues	£16,302	£17,162	£118,478	£126,046	£8,471	£8,736	£24,291	£24,578
Per cent. of receipts	2·08	1·97	4·70	4·76	0·43	0·44	2·38	2·37
Dock railways	£141,836	£157,638	£468,204	£485,160	£92,339	£94,851	£56,717	£66,836
Per cent. of receipts	18·08	18·08	18·57	18·33	4·68	4·81	5·57	6·46
Cranage and other services	£335,636	£388,498	£890,329	£954,577	£782,197	£795,922	£353,070	£365,761
Per cent. of receipts	42·78	44·56	35·32	36·06	39·68	40·32	34·66	35·33
Graving docks	£8,820	£9,959	£38,466	£38,771	£9,007	£6,642	£66,258	£50,850
Per cent. of receipts	1·12	1·14	1·53	1·46	0·45	0·34	6·51	4·91
Warehousing	£7,789	£8,049	£43,555	£42,792	£10,251	£9,697	£8,642	£10,650
Per cent. of receipts	0·99	0·92	1·73	1·62	0·52	0·49	0·85	1·03
Rents	£23,108	£24,042	£101,562	£102,727	£81,184	£78,262	£53,486	£53,525
Per cent. of receipts	2·94	2·76	4·03	3·88	4·12	3·96	5·25	5·17
Miscellaneous	£13,964	£15,154	£101,825	£107,032	£43,616	£38,226	£43,027	£47,112
Per cent. of receipts	1·78	1·74	4·04	4·05	2·21	1·94	4·22	4·55
Total	£784,608	£871,806	£2,520,988	£2,647,193	£1,971,439	£1,974,026	£1,018,648	£1,035,228
EXPENDITURE—								
Superintendence	£39,423	£39,853	£74,690	£75,651	£58,549	£58,706	£15,762	£15,247
Per cent. of expenditure	4·64	4·50	3·08	3·03	3·07	3·11	2·17	2·05
Maintenance	£112,628	£110,544	£445,756	£377,046	£497,522	£507,258	£98,592	£90,580
Per cent. of expenditure	13·26	12·47	18·38	15·11	26·11	26·91	13·59	12·18
Dredging	£108,919	£89,092	£119,538	£117,960	£91,218	£69,695	£113,029	£77,050
Per cent. of expenditure	12·82	10·05	4·93	4·73	4·79	3·70	15·57	10·36
Operating expenses	£445,727	£495,374	£1,276,656	£1,329,176	£941,591	£951,492	£363,989	£381,191
Per cent. of expenditure	52·47	55·90	52·64	53·25	49·42	50·48	50·15	51·24
Rates, including Rate Relief	£54,882	£53,777	£136,626	£137,590	£196,160	£199,875	£29,682	£31,337
Per cent. of expenditure	6·46	6·07	5·63	5·51	10·30	10·60	4·09	4·21
General charges	£26,455	£28,079	£60,342	£60,651	£80,094	£79,231	£34,982	£37,369
Per cent. of expenditure	3·12	3·17	2·49	2·43	4·21	4·20	4·82	5·02
Miscellaneous	£35,022	£69,788	£117,042	£122,669	£75,071	£75,102	£40,059	£42,555
Per cent. of expenditure	4·12	7·88	4·82	4·92	3·94	3·98	5·52	5·72
Transfer to or from Suspense Account	£26,431	Cr. £342	£194,749	£275,108	Cr. £35,017	Cr. £56,227	£29,695	£68,554
Per cent. of expenditure	3·11	0·04	8·03	11·02	1·84	2·98	4·09	9·22
Total	£849,487	£886,165	£2,425,399	£2,495,851	£1,905,188	£1,885,132	£725,790	£743,883
Per cent. on gross receipts	108·27	101·65	96·21	94·28	96·64	95·50	71·25	71·86
Net receipts from docks, harbours and wharves	loss £64,879	loss £14,359	£95,589	£151,342	£66,251	£88,893	£292,858	£291,345

Table 23—Receipts and Expenditure in Respect of Hotels and of Refreshment Rooms and Cars where Catering is carried on by the Company, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
RECEIPTS—								
Total receipts from hotels and sale of provisions, &c., in the refreshment rooms and cars	£2,636,945	£2,833,028	£1,667,924	£1,756,465	£637,826	£666,849	£104,263	£108,772
EXPENDITURE—								
Salaries and wages	£569,633	£585,870	£318,428	£319,593	£127,658	£118,387	£19,805	£20,351
Per cent. of expenditure	24·24	23·72	20·13	19·59	22·76	20·02	18·89	18·15
Per cent. on gross receipts	21·60	20·68	19·09	18·19	20·02	17·75	18·99	18·71
Provisions, wines and spirits consumed	£1,127,945	£1,197,389	£853,482	£893,642	£313,030	£342,976	£46,441	£48,213
Per cent. of expenditure	47·99	48·48	53·94	54·79	55·80	57·99	44·29	43·01
Per cent. on gross receipts	42·78	42·27	51·17	50·88	49·08	51·44	44·53	44·31
Maintenance of hotels and refreshment rooms and fittings, furniture, &c., of refreshment cars	£243,665	£261,180	£154,370	£161,782	£27,490	£34,044	£10,508	£22,329
Per cent. of expenditure	10·37	10·57	9·76	9·92	4·90	5·76	10·02	19·92
Per cent. on gross receipts	9·24	9·22	9·26	9·21	4·31	5·11	10·08	20·52
Heating and lighting of hotels and refreshment rooms	£87,565	£93,805	£50,247	£54,334	£15,597	£17,631	£5,790	£5,732
Per cent. of expenditure	3·72	3·80	3·18	3·33	2·78	2·98	5·52	5·11
Per cent. on gross receipts	3·32	3·31	3·01	3·09	2·44	2·64	5·56	5·27
Rents	£33,993	£38,934	£40,396	£39,803	£21,256	£21,277	—	—
Per cent. of expenditure	1·45	1·58	2·55	2·44	3·79	3·60	—	—
Per cent. on gross receipts	1·29	1·38	2·42	2·27	3·33	3·19	—	—
Rates	£67,394	£65,800	£37,403	£36,004	£11,795	£10,228	£3,038	£3,011
Per cent. of expenditure	2·87	2·66	2·36	2·21	2·10	1·73	2·90	2·68
Per cent. on gross receipts	2·56	2·32	2·24	2·05	1·85	1·53	2·92	2·77
Licence Duty	£9,842	£9,799	£7,806	£7,688	£4,003	£3,711	£482	£449
Per cent. of expenditure	0·42	0·40	0·49	0·47	0·72	0·63	0·46	0·40
Per cent. on gross receipts	0·37	0·35	0·47	0·44	0·63	0·56	0·46	0·41
General Charges	£49,029	£47,694	£32,891	£33,220	£10,621	£10,821	£2,762	£3,060
Per cent. of expenditure	2·09	1·93	2·08	2·04	1·89	1·83	2·63	2·73
Per cent. on gross receipts ...	1·86	1·68	1·97	1·89	1·66	1·62	2·65	2·81
Miscellaneous	£189,802	£181,526	£101,865	£104,476	£29,513	£32,306	£9,853	£10,139
Per cent. of expenditure	8·07	7·35	6·44	6·40	5·26	5·46	9·40	9·04
Per cent. on gross receipts	7·20	6·40	6·11	5·95	4·63	4·84	9·45	9·32
Transfer to or from Suspense Account	Cr. £28,631	Cr. £12,144	Cr. £14,644	Cr. £19,402	—	—	£6,172	Cr. £1,163
TOTAL EXPENDITURE	£2,350,237	£2,469,853	£1,582,244	£1,631,140	£560,963	£591,381	£104,851	£112,121
Per cent. of receipts	89·13	87·18	94·86	92·86	87·95	88·68	100·56	103·05
Balance—								
Profit	£286,708	£363,175	£85,680	£125,325	£76,863	£75,468	loss £588	loss £3,349
Percentage of profit to gross receipts	10·87	12·82	5·14	7·14	12·05	11·32	—	—

XUM

Table 24—Mileage of Lines Open for Traffic and Receipts per Route Mile, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
MILEAGE OF LINES OPEN FOR TRAFFIC (PER STATISTICAL RETURN 1A)—								
Lines owned by the Company, including Company's share of Lines Jointly Owned other than those included in Abstract "J"—								
Length of road	6,938	6,937	6,371	6,369	3,787	3,785	2,164	2,156
Total miles reduced to single track	13,396	13,385	11,495	11,460	6,464	6,464	4,135	4,122
Sidings reduced to single track	6,013	6,017	5,321	5,338	2,598	2,600	1,260	1,256
Total of single track (including sidings)	19,409	19,402	16,816	16,798	9,062	9,064	5,935	5,378
Lines leased or worked—								
Length of road	3	3	12	12	8	8	30	30
Total miles reduced to single track	4	4	25	25	9	9	31	31
Sidings reduced to single track	1	1	1	1	4	4	6	6
Total of single track (including sidings)	5	5	26	26	13	13	37	37
TOTAL—								
Length of road	6,941	6,940	6,383	6,381	3,795	3,793	2,194	2,186
Total miles reduced to single track	13,400	13,388	11,520	11,485	6,473	6,473	4,166	4,153
Sidings reduced to single track	6,014	6,018	5,322	5,339	2,602	2,604	1,266	1,262
Total of single track (including sidings)	19,414	19,407	16,842	16,824	9,075	9,077	5,432	5,415
PASSENGER TRAIN RECEIPTS. PER ACCOUNT No. 10	£24,280,869	£24,739,965	£15,770,771	£16,161,235	£10,476,813	£10,569,140	£14,867,676	£15,164,250
Per route mile	£3,498	£3,565	£2,471	£2,533	£2,761	£2,786	£6,777	6,937
GOODS TRAIN RECEIPTS. PER ACCOUNT No. 10	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676
Per route mile	£4,804	£5,077	£4,159	£4,447	£3,659	£3,823	£2,166	£2,273
TOTAL TRAFFIC RECEIPTS. PER ACCOUNT No. 10	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
Per route mile	£8,302	£8,642	£6,630	£6,980	£6,420	£6,609	£8,943	£9,210
TOTAL RAILWAY RECEIPTS. PER ACCOUNT No. 10	£58,185,439	£60,571,587	£42,687,504	£44,913,975	£24,572,250	£25,289,629	£19,845,825	£20,368,894
Per route mile	£8,383	£8,728	£6,688	£7,039	£6,475	£6,667	£9,046	£9,318

Table 25—Stock of Coaching Vehicles, Number of Passengers Carried, and Number of Season Ticket Holders, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
NUMBER OF PASSENGER CARRIAGES (PER STATISTICAL RETURN II)—	1933	1934	1933	1934	1933	1934	1933	1934
Steam	17,518	17,261	12,500	12,383	6,102	6,086	4,966	4,702
Electric	628	625	141	137	60	60	1,995	2,054
Rail motor	25	25	93	95	23	21	2	1
Total	18,171	17,911	12,734	12,615	6,185	6,167	6,963	6,757
NUMBER OF SEATS OR BERTHS (PER STATISTICAL RETURN II)								
Steam—								
First	123,056	121,527	79,057	76,489	38,956	38,542	44,828	42,432
Second	1,644	1,644	46,616	46,068	—	—	1,416	387
Third	920,745	905,211	551,669	547,983	307,937	308,830	209,044	198,518
Electric	43,930	43,735	8,400	8,240	2,680	2,680	151,108	156,137
Rail motor	1,224	1,176	5,519	5,656	1,284	1,172	69	44
Total	1,090,599	1,073,293	691,261	684,436	350,857	351,224	406,465	397,518
NUMBER OF PASSENGERS CONVEYED (PER STATISTICAL RETURN XIII)—								
Excluding season ticket holders	288,902,847	302,310,693	186,900,207	193,035,874	108,552,728	110,813,041	213,268,465	222,064,472
Estimated number of journeys by season ticket holders	130,510,800	130,389,600	92,248,800	92,048,400	40,018,800	40,152,600	111,058,800	115,877,400
Total	419,413,647	432,700,293	279,149,007	285,084,274	148,571,528	150,965,641	324,327,265	337,941,872
Per carriage	23,081	24,158	21,922	22,599	24,021	24,480	46,579	50,014
Per seat	385	403	404	417	423	430	798	850
NUMBER OF OTHER COACHING VEHICLES—								
Post Office vans	78	80	27	27	43	34	22	22
Luggage, parcel, milk, fruit and brake vans	2,637	2,565	1,442	1,410	1,386	1,362	1,343	1,262
Fish vans and trucks	920	876	3,198	3,253	363	363	—	—
Carriage trucks	1,613	1,611	642	611	273	262	178	161
Horse boxes	1,111	1,042	1,334	1,267	740	729	443	426
Miscellaneous	202	213	43	50	62	72	75	74
Total	6,561	6,387	6,686	6,618	2,867	2,822	2,061	1,945
Total coaching vehicles, including electric stock and rail motor vehicles	24,732	24,298	19,420	19,233	9,052	8,989	9,024	8,702

Table 26—Stock of Goods Train Vehicles and the Tonnage of Merchandise and Mineral Traffic Conveyed, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
NUMBER OF MERCHANDISE AND MINERAL WAGONS (PER STATISTICAL RETURN IID)—								
Open	144,656	142,545	109,275	105,628	48,521	46,724	24,469	23,693
Covered	43,775	46,154	33,723	32,825	21,762	22,972	5,054	5,130
Special	2,811	2,798	4,358	4,828	1,341	1,427	709	680
Rail and timber (including twin trucks)	6,724	6,493	12,827	12,364	2,738	2,448	912	794
Mineral	61,317	59,017	83,973	82,002	1,501	1,394	851	1,203
Total	259,283	257,007	244,156	237,647	75,863	74,965	31.995	31,500
NUMBER OF ORIGINATING TONS CONVEYED (EXCLUDING COAL AND COKE). (PER STATISTICAL RETURN XIV.)								
Tons	33,202,081	37,645,614	30,276,858	34,569,361	14,220,645	15,441,569	4,663,302	4,891,227
Per wagon (excluding mineral)	168	190	189	222	191	210	150	161
NUMBER OF CATTLE TRUCKS (PER STATISTICAL RETURN IID)	7,915	7,835	6,231	5,833	3,206	3,173	1,146	1,110
HEADS OF ORIGINATING LIVE STOCK. (PER STATISTICAL RETURN XIV.)—								
Number	4,990,250	4,704,549	3,690,754	3,543,721	1,616,108	1,584,144	638,695	601,130
Per wagon	630	600	592	608	504	499	556	542
NUMBER OF BRAKE VANS (PER STATISTICAL RETURN IIE)	5,648	5,599	4,438	4,439	2,260	2,212	928	974
NUMBER OF RAILWAY SERVICE VEHICLES AND HORSES FOR SHUNTING (PER STATISTICAL RETURN IIE)—								
Coal, coke, ash and sand wagons	9,740	9,240	9,314	8,720	4,524	4,498	148	153
Ballast wagons	4,399	3,818	2,090	1,935	2,121	2,018	855	798
Other wagons, &c.	2,574	2,526	2,438	2,453	1,541	1,525	735	729
Total	16,713	15,584	13,842	13,108	8,186	8,041	1,738	1,680
Horses for shunting	154	149	240	237	31	28	35	34

(*Continued from page* 829)

caused a general improvement in the average earnings per route mile.

Table XXV.—Stock of Coaching Vehicles

It will be seen that all companies have reduced the number of passenger carriages, and, with the exception of the Great Western, the number of seats. The increase in passenger journeys has resulted in an all-round improvement in the number of passengers carried per carriage and per seat. The high figures on the Southern in comparison with those of the other three companies are very noticeable. Coaching vehicles other than passenger carriages are still diminishing in number. An exception is to be found in the case of fish vans and trucks on the L.N.E.R., which have increased from 3,198 to 3,253.

Table XXVI.—Stock of Goods Train Vehicles

As in the case of coaching vehicles, goods and mineral wagons are diminishing in number, but figures are not available to show whether tonnage capacity is increasing due to the substitution of high for low capacity types of stock. There is a marked improvement in the average number of tons conveyed per vehicle per annum, but in the case of cattle trucks, fewer heads of live stock have been conveyed per vehicle except on the L.N.E.R. Service vehicles and shunt horses have also declined in numbers.

Table XXVII.—Train and Engine Mileage and Receipts per Train Mile

Increases are shown both in coaching and goods train mileage, and also in shunting, assisting and light mileage. Only the Southern Railway is able to record an improvement in the earnings per passenger train mile, but all companies have effected an improvement in their average freight train mile receipts, the L.N.E.R. being highest with 13s. 5·79d.

(*Text continued on page* 836)

Table 27—Train and Engine Mileage and Receipts per Train-Mile, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933	1934	1933	1934	1933	1934	1933	1934
A. Miles run in relation to the Company's Traffic Receipts. Total Train-miles (per Statistical Return XII)								
Coaching	92,741,739	96,945,858	63,626,890	65,721,681	39,527,651	40,685,597	57,551,292	58,209,553
Goods	50,741,808	53,366,424	39,388,940	42,093,990	21,898,017	22,707,235	7,188,730	7,453,129
Total	143,483,547	150,312,282	103,015,830	107,815,671	61,425,668	63,392,832	64,740,022	65,662,682
B. Miles run in relation to the Company's Expenditure. Total Train-miles (per Statistical Return XII)								
Coaching	92,750,948	96,978,924	63,779,699	65,875,300	39,584,985	40,699,928	57,541,930	58,200,919
Goods	50,861,777	53,507,498	39,460,438	42,177,806	21,867,055	22,671,786	7,109,067	7,373,426
Total	143,612,725	150,486,422	103,240,137	108,053,106	61,452,040	63,371,714	64,650,997	65,574,345
C. Miles run by the Company's Engines (per Statistical Return XII). Total Train-miles								
Coaching	92,150,131	96,487,132	66,350,886	68,579,273	39,581,585	40,694,624	56,661,151	57,335,992
Goods	51,780,095	54,294,803	41,466,484	44,295,143	22,045,677	22,958,726	6,886,177	7,134,315
Total	143,930,226	150,781,935	107,817,370	112,874,416	61,627,262	63,653,350	63,547,328	64,470,307
Shunting Miles—								
Coaching	7,427,703	7,517,185	4,073,929	4,202,573	2,719,135	2,763,288	2,522,980	2,560,987
Goods	35,556,634	37,399,775	29,444,211	30,859,773	18,742,445	19,417,918	6,605,633	6,937,838
Other Miles (Assisting Light, &c.)	21,891,729	23,292,889	14,170,012	15,093,856	6,644,789	6,810,891	4,516,184	4,788,844
Total engine miles	208,806,292	218,991,784	155,505,522	163,030,618	89,733,631	92,645,447	77,192,125	78,757,976
Percentage train-miles of total engine miles	68·93	68·85	69·33	69·24	68·68	68·81	82·32	81·86
Passenger Train Receipts. Per Account No. 10	£24,280,869	£24,739,965	£15,770,771	£16,161,235	£10,476,813	£10,569,140	£14,867,676	£15,164,250
Per train-mile	5s. 2·83d.	5s. 1·25d.	4s. 11·49d.	4s. 11·02d.	5s. 3·61d.	5s. 2·35d.	5s. 2·0d.	5s. 2·52d.
Goods Train Receipts. Per Account No. 10	£33,340,162	£35,235,596	£26,547,509	£28,377,253	£13,888,411	£14,500,385	£4,752,934	£4,967,676
Per train-mile	13s. 1·69d.	13s. 2·46d.	13s. 5·76d.	13s. 5·79d.	12s. 8·22d.	12s. 9·26d.	13s. 2·68d.	13s. 3·96d.
Total Traffic Receipts	£57,621,031	£59,975,561	£42,318,280	£44,538,488	£24,365,224	£25,069,525	£19,620,610	£20,131,926
Per train-mile	8s. 0·38d.	7s. 11·76d.	8s. 2·59d.	8s. 3·01d.	7s. 11·20d.	7s. 10·91d.	6s. 0·74d.	6s. 1·58d.

Table 28—Summary of Financial Results Secured, Years 1933 and 1934

	L.M.S.R.		L.N.E.R.		G.W.R.		Southern	
	1933 £	1934 £	1933 £	1934 £	1933 £	1934 £	1933 £	1934 £
Total expenditure on Capital Account (No. 4)	452,974,229	452,554,778	350,076,791	351,333,741	182,504,569	183,685,192	164,336,509	166,064,274
Gross receipts from business carried on by the Company (No. 8)	65,291,119	68,180,325	48,789,274	51,376,256	28,423,656	29,280,382	22,598,417	23,152,749
Revenue expenditure on businesses carried on by the Company (No. 8)	55,185,091	56,924,562	41,496,163	43,521,169	23,970,743	24,311,381	18,092,686	18,399,375
Net receipts of businesses carried on by the Company (No. 8)	10,106,028	11,255,763	7,293,111	7,855,087	4,452,913	4,969,001	4,505,731	4,753,374
"J" Joint Lines—Company's proportion of Net revenue (No. 8)	53,974	57,306	242,401	258,199	131,779	130,638	Dr. 45,706	Dr. 49,432
Miscellaneous receipts net (No. 8)	2,266,839	2,331,358	1,120,950	1,177,889	985,331	1,069,264	1,302,368	1,326,479
Miscellaneous charges	1,714,156	1,723,191	933,342	943,029	741,462	757,904	222,596	230,086
Total net income (No. 8)	10,712,685	11,921,236	7,723,120	8,348,146	4,828,561	5,410,999	5,539,797	5,800,335
Appropriation from reserve or contingency fund	—	—	50,000	50,000	1,350,000	550,000	—	—
Profit on realisation of investments	—	—	—	—	71,529	323,948	—	—
Interest on loans and debenture stocks (No. 9)	4,439,171	4,439,171	4,255,105	4,253,298	1,619,809	1,649,809	1,943,167	1,943,167
Dividends on guaranteed and preference stocks (No. 9)	6,213,860	7,521,200	3,492,949	4,158,458	3,344,699	3,344,699	2,751,278	2,751,278
Balance after payments of preference dividends (No. 9)	59,654	—	25,066	—	1,285,582	1,290,439	845,352	1,105,890
DIVIDENDS ON ORDINARY STOCK (No. 9)—								
Interim	Nil	Nil	Nil	Nil	107,324	107,324	—	—
Rate per cent.	Nil	Nil	Nil	Nil	¼	¼	Preferred Nil	Preferred Nil
Final	Nil	Nil	Nil	Nil	1,180,568	1,180,568	827,598	1,103,464
Rate per cent.	Nil	Nil	Preferred Nil.	Preferred Nil	2¾	2¾	Preferred 3	Preferred 4
		—	Deferred Nil.	Deferred Nil		—	Deferred Nil	Deferred Nil
Total	Nil	Nil	Nil	Nil	1,287,892	1,287,892	827,598	1,103,464
Rate per cent.	Nil	Nil	Preferred Nil.	Preferred Nil	3	3	Preferred 3	Preferred 4
			Deferred Nil.	Deferred Nil			Deferred Nil	Deferred Nil
Surplus	59,654	—	25,066	—	—	2,547	17,754	2,426
Deficit	—	39,135	—	13,610	2,310	—	—	—
Brought forward from previous year	—	59,654	31,577	56,643	42,989	40,679	207,173	224,927
Carried forward to subsequent year	59,654	20,519	56,643	43,033	40,679	43,226	224,927	227,353

(*Continued from page* 834)

Table XXVIII.—Summary of Financial Results Secured

This table shows the following improvement in net income of the four companies:—

	1934 £	1933 £	Increase £	Increase per cent.
L.M.S.R. ...	11,921,236	10,712,685	1,208,551	11·28
L.N.E.R. ...	8,348,146	7,723,120	625,026	8·09
G.W.R. ...	5,410,999	4,828,561	582,438	12·06
S.R.	5,800,335	5,539,797	260,538	4·70
	31,480,716	28,804,163	2,676,553	9·29

This improvement follows on a net improvement in 1933 of 9 per cent. on 1932, and is eloquent testimony to the efficient management of the companies.

The L.M.S.R. and L.N.E.R. companies are still unable to make any distribution to their ordinary shareholders, but the former has paid the full dividends on its 4 per cent. preference and 5 per cent. redeemable preference stocks, as against 3½ per cent. and 4⅜ per cent. respectively in 1933, and in addition has paid 1⅝ per cent. on its 4 per cent. preference stock (1923). The L.N.E.R. has increased its dividend on the 4 per cent. first preference stock from 2 per cent. to 3¼ per cent., and on its 5 per cent. redeemable preference stock (1955) from 2½ per cent. to 4 1/16 per cent. To do this, however, it has again appropriated £50,000 from reserve and has reduced its carry forward by £13,610. The Great Western, in order to maintain its full trustee status and pay 3 per cent. on its ordinary stock, has taker £550,000 from reserve and appropriated £323,948 representing profits on realisation of investments, but a much larger sum was taken from reserve a year ago. Southern preference ordinary has received a return of 4 per cent. instead of 3 per cent. in 1933. On the whole there is little to grumble at.